California High-Speed Rail Authority

RFP No.: HSR 14-32

# Request for Proposals for Design-Build Services for Construction Package 4

# Reference Material, Part B.1

# 15% Preliminary Design Plans

**Note: Southern limit of CP4 ends just north of Poplar Ave, at approximately station WS1 5880+00, even though this document shows the limit just north of 7th Standard Road. Work south of the contract limit of WS1 5880+00 should not be considered as part of the contract**

RFP No. HSR 14-32 – EXECUTED VERSION -02/05/2016

# CALIFORNIA HIGH-SPEED TRAIN

## Alignment Plans




# RECORD SET 15% DESIGN SUBMISSION

# Fresno to Bakersfield

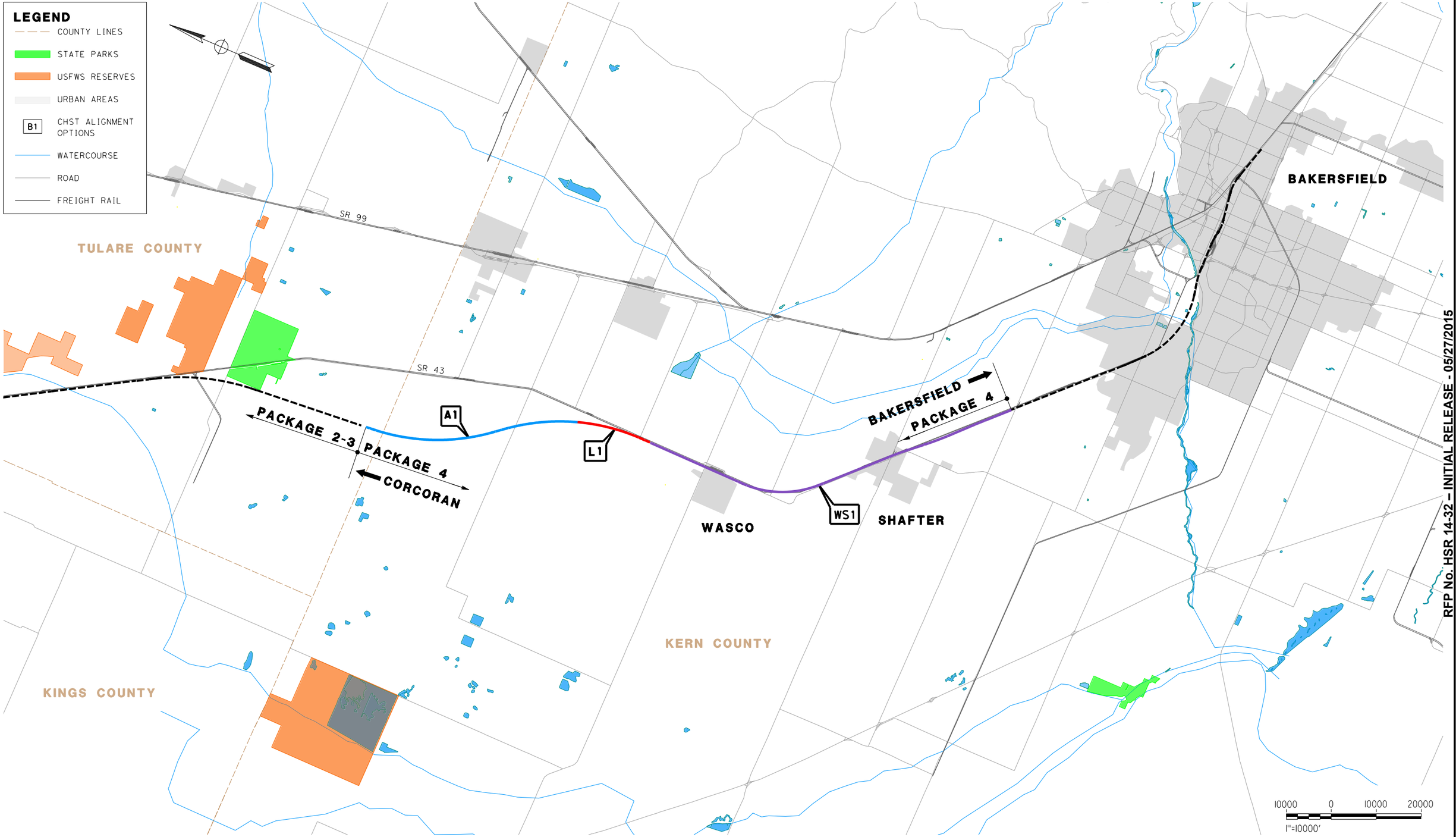
## Plans and Profiles and Cross Sections

May 2014

CALIFORNIA High-Speed Rail Authority

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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paul.tonkin 8/7/2014 4:15:40 PM CAHSRP-r1.tbl CHSR_PDF_half_color_200dpi.plt




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY K. SEYMOUR
DRAWN BY P. TONKIN
CHECKED BY S. BURGES
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
PACKAGE 4
ALIGNMENT
LOCATION MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-B1100
SCALE AS SHOWN
SHEET NO. 1 OF 7

## GENERAL SHEETS

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| TT-B1100 | | PACKAGE 4 - ALIGNMENT - LOCATION MAP | 1 OF 7 |
| GE-A0027 | | ALIGNMENT - INDEX OF SHEETS | 2 OF 7 |
| CB0010 | | GENERAL - ABBREVIATIONS AND LEGENDS - SHEET 1 OF 2 | 3 OF 7 |
| CB0011 | | GENERAL - ABBREVIATIONS AND LEGENDS - SHEET 2 OF 2 | 4 OF 7 |
| CB0013 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY GE-A0033 | - |
| GE-A0033 | | ALIGNMENT - CURVE DATA - SHEET 2 OF 2 | 5 OF 7 |
| CB0016 | | WILDLIFE CROSSINGS - LOCATION MAP | 6 OF 7 |
| TP-B0002 | | TRACTION POWER FACILITY, CROSSOVER & STATION - LOCATION EXHIBIT | 7 OF 7 |

## ALIGNMENT A1 - ALLENSWORTH SUBSECTION

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| CB1400 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY TT-D1100 | - |
| TT-D1100 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 3919+50 TO 4926+16 - KEY MAP | 1 OF 21 |
| ~~CB1401~~ | | ~~ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 3919+50 TO 3976+00 - PLAN AND PROFILE~~ | ~~2 OF 21~~ |
| ~~CB1402~~ | | ~~ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 3976+00 TO 4032+00 - PLAN AND PROFILE~~ | ~~3 OF 21~~ |
| ~~CB1750~~ | | ~~ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4032+00 TO 4088+00 - PLAN AND PROFILE~~ | ~~4 OF 21~~ |
| ~~CB1751~~ | | ~~ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4088+00 TO 4144+00 - PLAN AND PROFILE~~ | ~~5 OF 21~~ |
| ~~CB1752~~ | | ~~ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4144+00 TO 4200+00 - PLAN AND PROFILE~~ | ~~6 OF 21~~ |
| ~~CB1753~~ | | ~~ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4200+00 TO 4256+00 - PLAN AND PROFILE~~ | ~~7 OF 21~~ |
| ~~CB1754~~ | | ~~ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4256+00 TO 4312+00 - PLAN AND PROFILE~~ | ~~8 OF 21~~ |
| ~~CB1755~~ | | ~~ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4312+00 TO 4368+00 - PLAN AND PROFILE~~ | ~~9 OF 21~~ |
| ~~CB1756~~ | | ~~ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4368+00 TO 4424+00 - PLAN AND PROFILE~~ | ~~10 OF 21~~ |
| CB1757 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY TT-D1101 | - |
| TT-D1101 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4424+00 TO 4480+00 - PLAN AND PROFILE | 11 OF 21 |
| CB1758 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4480+00 TO 4536+00 - PLAN AND PROFILE | 12 OF 21 |
| CB1759 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4536+00 TO 4592+00 - PLAN AND PROFILE | 13 OF 21 |
| CB1760 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4592+00 TO 4648+00 - PLAN AND PROFILE | 14 OF 21 |
| CB1761 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY TT-D1102 | - |
| TT-D1102 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4648+00 TO 4704+00 - PLAN AND PROFILE | 15 OF 21 |
| CB1762 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4707+00 TO 4760+00 - PLAN AND PROFILE | 16 OF 21 |
| CB1763 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4760+00 TO 4816+00 - PLAN AND PROFILE | 17 OF 21 |
| CB1764 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4816+00 TO 4872+00 - PLAN AND PROFILE | 18 OF 21 |
| CB1765 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - STA. 4872+00 TO 4926+16 - PLAN AND PROFILE | 19 OF 21 |
| CB3401 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - CROSS SECTIONS | 20 OF 21 |
| CB3402 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY TT-D3101 | - |
| TT-D3101 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - CROSS SECTIONS | 21 OF 21 |

## ALIGNMENT L1 - POSO CREEK SUBSECTION

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| CB1525 | | POSO CREEK SUBSECTION - ALIGNMENT L1 - STA. 5154+50 TO 5322+33 - KEY MAP | 1 OF 6 |
| CB1526 | | POSO CREEK SUBSECTION - ALIGNMENT L1 - STA. 5154+50 TO 5210+50 - PLAN AND PROFILE | 2 OF 6 |
| CB1527 | | POSO CREEK SUBSECTION - ALIGNMENT L1 - STA. 5210+50 TO 5266+50 - PLAN AND PROFILE | 3 OF 6 |
| CB1528 | | POSO CREEK SUBSECTION - ALIGNMENT L1 - STA. 5266+50 TO 5322+33 - PLAN AND PROFILE | 4 OF 6 |
| CB3526 | | POSO CREEK SUBSECTION - ALIGNMENT L1 - CROSS SECTIONS | 5 OF 6 |
| CB3527 | | POSO CREEK SUBSECTION - ALIGNMENT L1 - CROSS SECTIONS | 6 OF 6 |

## ALIGNMENT WS1 - THROUGH WASCO-SHAFTER SUBSECTION

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| CB1448 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY TT-D1150 | - |
| TT-D1150 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5422+50 TO 6511+99 - KEY MAP | 1 OF 35 |
| CB1449 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5422+50 TO 5478+50 - PLAN AND PROFILE | 2 OF 35 |
| CB1450 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5478+50 TO 5334+50 - PLAN AND PROFILE | 3 OF 35 |
| CB1451 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5334+50 TO 5562+50 - PLAN AND PROFILE | 4 OF 35 |
| CB1452 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5562+50 TO 5590+50 - PLAN AND PROFILE | 5 OF 35 |
| CB1453 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5559+50 TO 5618+50 - PLAN AND PROFILE | 6 OF 35 |
| CB1454 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5618+50 TO 5646+50 - PLAN AND PROFILE | 7 OF 35 |
| CB1455 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5646+50 TO 5702+50 - PLAN AND PROFILE | 8 OF 35 |
| CB1456 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5702+50 TO 5758+50 - PLAN AND PROFILE | 9 OF 35 |
| CB1457 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5758+50 TO 5814+50 - PLAN AND PROFILE | 10 OF 35 |
| CB1458 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA 5814+50 TO 5870+50 - PLAN AND PROFILE | 11 OF 35 |
| CB1459 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5870+50 TO 5926+50 - PLAN AND PROFILE | 12 OF 35 |
| CB1460 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5926+50 TO 5954+50 - PLAN AND PROFILE | 13 OF 35 |
| CB1461 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5954+50 TO 5982+50 - PLAN AND PROFILE | 14 OF 35 |
| CB1462 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 5982+50 TO 6010+50 - PLAN AND PROFILE | 15 OF 35 |
| CB1463 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 6010+50 TO 6038+50 - PLAN AND PROFILE | 16 OF 35 |
| CB1464 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 6038+50 TO 6094+50 - PLAN AND PROFILE | 17 OF 35 |
| CB1465 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY TT-D1151 | - |
| TT-D1151 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 6094+50 TO 6150+50 - PLAN AND PROFILE | 18 OF 35 |
| CB1466 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY TT-D1152 | - |
| TT-D1152 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 6150+50 TO 6206+50 - PLAN AND PROFILE | 19 OF 35 |
| CB1467 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY TT-D1153 | - |
| TT-D1153 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 6260+50 TO 6262+50 - PLAN AND PROFILE | 20 OF 35 |
| CB1468 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY TT-D1154 | - |
| TT-D1154 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 6262+50 TO 6318+50 - PLAN AND PROFILE | 21 OF 35 |
| ~~CB1469~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 6318+50 TO 6374+50 - PLAN AND PROFILE~~ | ~~22 OF 35~~ |
| ~~CB1470~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 6374+50 TO 6430+50 - PLAN AND PROFILE~~ | ~~23 OF 35~~ |
| ~~CB1471~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 6430+50 TO 6486+50 - PLAN AND PROFILE~~ | ~~24 OF 35~~ |
| ~~CB1472~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STA. 6486+50 TO 6511+99 - PLAN AND PROFILE~~ | ~~25 OF 35~~ |
| CB3446 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - CROSS SECTIONS | 26 OF 35 |
| CB3447 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - CROSS SECTIONS | 27 OF 35 |
| CB3448 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - CROSS SECTIONS | 28 OF 35 |
| CB3449 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - CROSS SECTIONS | 29 OF 35 |
| CB3450 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - CROSS SECTIONS | 30 OF 35 |
| CB3451 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - CROSS SECTIONS | 31 OF 35 |
| CB3452 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - CROSS SECTIONS | 32 OF 35 |
| CB3453 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY TT-D3151 | - |
| TT-D3151 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - CROSS SECTIONS | 33 OF 35 |
| CB3454 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - CROSS SECTIONS | 34 OF 35 |
| CB3455 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - CROSS SECTIONS | 35 OF 35 |

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY P. TONKIN
DRAWN BY P. TONKIN
CHECKED BY K.SEYMOUR
IN CHARGE S. BURGES
DATE 09/24/14

PROPOSED PRELIMINARY DESIGN

NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
ALIGNMENT
INDEX OF SHEETS

CONTRACT NO. HSR 06-0003
DRAWING NO. GE-A0027
SCALE NO SCALE
SHEET NO. 2 OF 7

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## A

| | |
|---|---|
| AB | AGGREGATE BASE |
| ABBC | ASBESTOS BONDED BITUMINOUS COATED |
| ABM | AIR-BLOWN MORTAR |
| ABN | ABANDON |
| ABUT | ABUTMENT |
| AC | ASPHALT CONCRETE |
| ACB | ASPHALT CONCRETE BASE |
| ACP | ASBESTOS CEMENT PIPE |
| ADL | ADDED DEAD LOAD |
| ADJ | ADJUST |
| AFES | ALTERNATIVE FLARED END SECTION |
| AHD | AHEAD |
| ALT | ALTERNATE |
| AM | TIME FROM MIDNIGHT TO NOON |
| AP | ALTERNATIVE PIPE |
| APC | ALTERNATIVE PIPE CULVERT |
| APPROX | APPROXIMATE |
| APU | ALTERNATIVE PIPE UNDERDRAIN |
| ARS | ACCELERATION RESPONSE SPECTRUM |
| AR | ACCESS RESTRICTION |
| AS | AGGREGATE SUBBASE |
| ASRP | ALUMINUM SPIRAL RIB PIPE |
| ASSY | ASSEMBLY |
| ATPB | ASPHALT TREATED PERMEABLE BASE |
| ATPM | ASPHALT TREATED PERMEABLE MATERIAL |
| AVE | AVENUE |
| AVG | AVERAGE |
| @ | AT |

## B

| | |
|---|---|
| BAGR | BRIDGE APPROACH GUARD RAILING |
| BB | BEGINNING OF BRIDGE |
| BC | BEGIN HORIZONTAL CURVE |
| BCC | BALANCED CANTILEVER CONSTRUCTION |
| BCR | BEGIN CURB RETURN |
| BEG | BEGIN |
| BIT CTD | BITUMINOUS COATED |
| BK | BACK |
| BKF | BACKFILL |
| BLDG | BUILDING |
| BLM | BRIDGE-LOG MILE |
| BLVD | BOULEVARD |
| BM | BENCH MARK |
| BND | BOUND |
| BNSF | BURLINGTON NORTH & SANTA FE |
| BOT | BOTTOM |
| BR | BRIDGE |
| BRG | BEARING |
| BTU | BRITISH THERMAL UNIT |
| BVC | BEGIN VERTICAL CURVE |
| BW | BARBED WIRE |

## C

| | |
|---|---|
| CAA | CABLE ANCHOR ASSEMBLY |
| CAP | CORRUGATED ALUMINUM PIPE |
| CAPA | CORRUGATED ALUMINUM PIPE ARCH |
| CAS | CONSTRUCTION AREA SIGN |
| CB | CONCRETE BARRIER |
| CBW | CONCRETE BLOCK WALL |
| C-C | CENTER TO CENTER |

## C CONTINUED

| | |
|---|---|
| CHSRA | CALIFORNIA HIGH SPEED RAIL AUTHORITY |
| CHST | CALIFORNIA HIGH SPEED TRAIN |
| CHSR | CALIFORNIA HIGH SPEED RAIL |
| CG | CENTER OF GRAVITY |
| CHNL | CHANNEL |
| CI | CAST IRON |
| CIDH | CAST-IN-DRILLED-HOLE |
| CIP,C-I-P | CAST-IN-PLACE, CAST IRON PIPE |
| CIPCP | CAST IN PLACE CONCRETE PIPE |
| CISS | CAST-IN-STEEL-SHELL |
| CJP | COMPLETE JOINT PENETRATION |
| CL | CENTERLINE, CLASS |
| CL2 | CLASS 2 |
| CL-6 | CHAIN LINK FENCE (6 FT) |
| CLR | CLEAR, CLEARANCE |
| CM | CORRUGATED METAL |
| CMP | CORRUGATED METAL PIPE |
| CO | COUNTY |
| COL | COLUMN |
| CONC | CONCRETE |
| COND | CONDUIT |
| CONN | CONNECTOR |
| CONST | CONSTRUCT, CONSTRUCTION |
| CONT | CONTINUOUS |
| COORD | COORDINATE |
| CP | CLEARANCE POINT |
| CR | CREEK |
| CRCP | CONTINUOUS REINFORCED CONCRETE PAVEMENT |
| CRSP | CONCRETED ROCK SLOPE PROTECTION |
| CS | CURVE TO SPIRAL |
| CSP | CORRUGATED STEEL PIPE |
| CSPA | CORRUGATED STEEL PIPE ARCH |
| CTB | CEMENT TREATED BASE |
| CTPB | CEMENT TREATED PERMEABLE BASE |
| CTPM | CEMENT TREATED PERMEABLE MATERIAL |
| CTRS | CENTERS |
| CVFPB | CENTRAL VALLEY FLOOD PROTECTION BOARD |
| CULV | CULVERT |
| ℄ | CENTERLINE |

## D

| | |
|---|---|
| D | DEPTH |
| DD | DOWNDRAIN, DIRECTIVE DRILLING |
| DBL | DOUBLE |
| DEG | DEGREE |
| DEL | DELINEATOR |
| DET | DETAIL, DETOUR |
| DF | DOUGLAS FIR |
| DI | DRAINAGE INLET, DROP INLET |
| DIA | DIAMETER |
| DIAPH | DIAPHRAGM |
| DIST | DISTANCE, DISTRICT |
| DMBB | DOUBLE METAL BEAM BARRIER |
| DR | DRIVE |
| DTBB | DOUBLE THRIE BEAM BARRIER |
| DWY | DRIVEWAY |

## E

| | |
|---|---|
| E | EAST, EASTING |
| EA | ACTUAL SUPERELEVATION |
| EU | UNBALANCED SUPERELEVATION |

## E CONTINUED

| | |
|---|---|
| EASE | EASEMENT |
| EB | END OF BRIDGE, EASTBOUND |
| EC | END HORIZONTAL CURVE |
| ECR | END CURB RETURN |
| ED | EDGE DRAIN |
| EDC | EDGE DRAIN CLEANOUT |
| EDO | EDGE DRAIN OUTLET |
| EDV | EDGE DRAIN VENT |
| ELEC | ELECTROLIER |
| ELECT | ELECTRIC |
| ELEV | ELEVATION |
| EMB | EMBANKMENT |
| ENGR | ENGINEER |
| EOD | EDGE OF DECK |
| EP | EDGE OF PAVEMENT |
| EQ | EQUATION, EQUAL |
| ES | EDGE OF SHOULDER |
| ETW | EDGE OF TRAVELED WAY |
| EVC | END VERTICAL CURVE |
| EW | ENDWALL |
| EXC | EXCAVATION |
| EXIST, EX. | EXISTING |
| EXP | EXPANSION |
| EXP JT | EXPANSION JOINT |
| EXWY | EXPRESSWAY |
| EXT | EXTERIOR |

## F

| | |
|---|---|
| F & C | FRAME AND COVER |
| F & G | FRAME AND GRATE |
| FB | FLOOR BEAM |
| F-B | FRESNO TO BAKERSFIELD |
| FDN | FOUNDATION |
| FEBT | FACING EASTBOUND TRAFFIC |
| FES | FLARED END SECTION |
| FF | FILTER FABRIC |
| FG | FINISHED GRADE |
| FH | FIRE HYDRANT |
| FIG | FIGURE |
| FL | FLOW LINE |
| FNBT | FACING NORTHBOUND TRAFFIC |
| FOC | FACE OF CONCRETE |
| FR RD | FRONTAGE ROAD |
| FS | FAR SIDE, FINISHED SURFACE |
| FSBT | FACING SOUTHBOUND TRAFFIC |
| FT | FOOT, FEET |
| FTG | FOOTING |
| FWBT | FACING WESTBOUND TRAFFIC |
| FWY | FREEWAY |
| FPLM | FULL SPAN PRECAST LAUNCHING METHOD |

## G

| | |
|---|---|
| G | ACCELERATION DUE TO GRAVITY |
| GA | GAGE |
| GALV | GALVANIZED |
| GP | GRADING PLANE |
| GR | GUARD RAILING |
| GSP | GALVANIZED STEEL PIPE |
| GTR | GUTTER |

## H

| | |
|---|---|
| H | HEIGHT |
| HR | HOUR |
| HD | HORIZONTAL DRAIN |
| HDWL | HEADWALL |
| HEX HD | HEXAGONAL HEAD |
| HMA | HOT MIXED ASPHALT |
| HORIZ | HORIZONTAL |
| HP | HINGE POINT, HORSEPOWER |
| HPS | HIGH PERFORMANCE STEEL |
| HS | HIGH STRENGTH |
| HST | HIGH SPEED TRAIN |
| HSR | HIGH SPEED RAIL |
| HW | HEADWALL, HIGH WATER |
| HWM | HIGH WATER MARK |
| HWY | HIGHWAY |

## I

| | |
|---|---|
| IB | IMPORTED BORROW |
| ID | INSIDE DIAMETER |
| IF | INSIDE FACE |
| IN | INCH, INCHES |
| INT | INTERIOR |
| INV | INVERT |
| IRR | IRRIGATION |

## J

| | |
|---|---|
| JCT | JUNCTION |
| JP | JOINT POLE |
| JPCP | JOINTED PLAIN CONCRETE PAVEMENT |
| JS | JUNCTION STRUCTURE |
| JT | JOINT |

## K

| | |
|---|---|
| K | DISTANCE TO ACHIEVE 1% GRADE CHANGE |

## L

| | |
|---|---|
| L | LENGTH |
| LAT | LATITUDE |
| LCB | LEAN CONCRETE BASE |
| LN | LANE |
| LOC | LOCATION |
| LOL | LAYOUT LINE |
| LONG | LONGITUDE |
| LONGIT | LONGITUDINAL |
| LS | LENGTH OF SPIRAL |
| LC | LENGTH OF CURVE |
| LT | LEFT |

## M

| | |
|---|---|
| MAINT | MAINTENANCE |
| MAX | MAXIMUM |
| MB | METAL BEAM |
| MBB | METAL BEAM BARRIER |
| MBGR | METAL BEAM GUARD RAILING |
| MED | MEDIAN |
| M-F | MERCED TO FRESNO |
| MH | MANHOLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MISC I & S | MISCELLANEOUS IRON AND STEEL |
| MKR | MARKER |
| M/L | MAIN LINE (RAILWAY) |

## M CONTINUED

| | |
|---|---|
| MOD | MODIFIED, MODIFY |
| MON | MONUMENT |
| MP | METAL PLATE |
| MPGR | METAL PLATE GUARD RAILING |
| MPH | MILES PER HOUR |
| MR | MOVEMENT RATING |
| MSE | MECHANICALLY STABILIZED EARTH |
| MTL | MATERIAL |
| MSS | MOVING SCAFFOLDING SYSTEM |

## N

| | |
|---|---|
| N | NORTH, NORTHING |
| NB | NORTHBOUND |
| NO. | NUMBER (MUST HAVE PERIOD) |
| NOS. | NUMBERS (MUST HAVE PERIOD) |
| NPS | NOMINAL PIPE SIZE |
| NS | NEAR SIDE |
| NTS | NOT TO SCALE |
| N/A | NOT APPLICABLE |

## O

| | |
|---|---|
| OBLR | OBLITERATE |
| OC | OVERCROSSING |
| OCS | OVERHEAD CONTACT SYSTEM |
| OD | OUTSIDE DIAMETER |
| OF | OUTSIDE FACE |
| OG | ORIGINAL GROUND |
| OGAC | OPEN GRADED ASPHALT CONCRETE |
| OH | OVERHEAD |
| O-O | OUT TO OUT |
| OPP | OPPOSITE |

## P

| | |
|---|---|
| P | PAGE |
| PAP | PERFORATED ALUMINUM PIPE |
| PB | PULL BOX |
| PC | POINT OF CURVATURE, PRECAST |
| PCC | POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE |
| PCP | PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE |
| PCVC | POINT OF COMPOUND VERTICAL CURVE |
| PED | PEDESTRIAN |
| PED OC | PEDESTRIAN OVERCROSSING |
| PED UC | PEDESTRIAN UNDERCROSSING |
| PERM MTL | PERMEABLE MATERIAL |
| PG | PROFILE GRADE |
| PI | POINT OF INTERSECTION |
| PJP | PARTIAL JOINT PENETRATION |
| ℄,PL | PLATE |
| P/L | PROPERTY LINE |
| PM | POST MILE, TIME FROM NOON TO MIDNIGHT |
| PN | PAVING NOTCH |
| POB | POINT OF BEGINNING |
| POC | POINT OF HORIZONTAL CURVE |
| POE | POINT OF ENDING |
| POT | POINT OF TANGENT |
| POVC | POINT OF VERTICAL CURVE |
| PP | PIPE PILE, PLASTIC PIPE, POWER POLE |
| PPL | PREFORMED PERMEABLE LINER |
| PPP | PERFORATED PLASTIC PIPE |
| PRC | POINT OF REVERSE CURVE |

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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|---|---|---|---|---|---|

DESIGNED BY K. SEYMOUR
DRAWN BY P. TONKIN
CHECKED BY D. HUNT
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD

GENERAL
ABBREVIATIONS AND LEGENDS
SHEET 1 OF 2

CONTRACT NO. HSR 06-0003
DRAWING NO. CB0010
SCALE NO SCALE
SHEET NO. 3 OF 7

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## P CONTINUED

| | |
|---|---|
| PRF | PAVEMENT REINFORCING FABRIC |
| PRVC | POINT OF REVERSE VERTICAL CURVE |
| PS&E | PLANS, SPECIFICATIONS AND ESTIMATES |
| PS, P/S | PRESTRESSED, PARALLEL STATION |
| PSP | PERFORATED STEEL PIPE |
| PT | POINT OF TANGENCY |
| PVC | POLYVINYL CHLORIDE |
| PVI | POINT OF VERTICAL INTERSECTION |
| PVMT | PAVEMENT |
| PVP | MAINTENANCE VEHICLE PULLOUT |

## Q

| | |
|---|---|
| QTY | QUANTITY |

## R

| | |
|---|---|
| R | RADIUS |
| R & D | REMOVE AND DISPOSE |
| R & S | REMOVE AND SALVAGE |
| R/C | RATE OF CHANGE |
| RCA | REINFORCED CONCRETE ARCH |
| RCB | REINFORCED CONCRETE BOX |
| RCP | REINFORCED CONCRETE PIPE |
| RCPA | REINFORCED CONCRETE PIPE ARCH |
| RD | ROAD |
| REINF | REINFORCED, REINFORCEMENT, REINFORCING |
| REL | RELOCATE |
| REPL | REPLACEMENT |
| RET | RETAINING |
| REV | REVISED |
| RDWY | ROADWAY |
| RM | ROAD-MIXED |
| RP | RADIUS POINT, REFERENCE POINT |
| RR | RAILROAD |
| RSP | ROCK SLOPE PROTECTION |
| RT | RIGHT |
| RTE | ROUTE |
| RW | REDWOOD, RETAINING WALL |
| R/W, ROW | RIGHT OF WAY |
| RWY | RAILWAY |

## S

| | |
|---|---|
| S | SOUTH, SUPPLEMENT |
| SAE | STRUCTURE APPROACH EMBANKMENT |
| SALV | SALVAGE |
| SAPP | STRUCTURAL ALUMINUM PLATE PIPE |
| SB | SOUTHBOUND |
| SC | SPIRAL TO CURVE |
| SCSP | SLOTTED CORRUGATED STEEL PIPE |
| SD | STORM DRAIN |
| SEC | SECOND |
| SECT | SECTION |
| SEP | SEPARATION |
| SG | SUBGRADE |
| SHLD | SHOULDER |
| SHT | SHEET |
| SIM | SIMILAR |
| S | STATION LINE |
| SM | SELECTED MATERIAL |
| SPEC | SPECIAL, SPECIFICATIONS |
| SPP | SLOTTED PLASTIC PIPE |
| SS | SLOPE STAKE, SPIRAL TO SPIRAL |

## S CONTINUED

| | |
|---|---|
| SSBM | STRAP AND SADDLE BRACKET METHOD |
| SSD | STRUCTURAL SECTION DRAIN |
| SSPA | STRUCTURAL STEEL PLATE ARCH |
| SSPP | STRUCTURAL STEEL PLATE PIPE |
| SSPPA | STRUCTURAL STEEL PLATE PIPE ARCH |
| SSRP | STEEL SPIRAL RIB PIPE |
| SR | STATE ROUTE |
| ST | STREET, SPIRAL TO TANGENT |
| STA | STATION |
| STBB | SINGLE THRIE BEAM BARRIER |
| STD | STANDARD |
| STR | STRUCTURE |
| SRS | STAND ALONE RADIO SITE |
| SURF | SURFACING |
| SW | SIDEWALK, SOUND WALL |
| SWR | SEWER |
| SWS | SWITCHING STATION |
| SYM | SYMMETRICAL |
| S4S | SURFACE 4 SIDES |
| SJVR | SAN JOAQUIN VALLEY RAILROAD |

## T

| | |
|---|---|
| T | SEMI-TANGENT |
| TAB | TABLET |
| TAN | TANGENT |
| TBB | THRIE BEAM BARRIER |
| TBR | TIMBER |
| TC | TOP OF CURB, TANGENT TO CURVE |
| TCB | TRAFFIC CONTROL BOX |
| TEL | TELEPHONE |
| TEMP | TEMPORARY |
| TG | TOP OF GRADE |
| TOT | TOTAL |
| TM | TECHNICAL MEMORANDUM |
| TP | TELEPHONE POLE |
| TPB | TREATED PERMEABLE BASE |
| TPM | TREATED PERMEABLE MATERIAL |
| TPSS | TRACTION POWER SUPPLY STATION |
| TRANS | TRANSITION, TRANSVERSE |
| TS | TRAFFIC SIGNAL, TUBULAR STEEL, TANGET TO SPIRAL |
| TYP | TYPICAL |
| TOR | TOP OF RAIL |

## U

| | |
|---|---|
| UC | UNDERCROSSING |
| UD | UNDERDRAIN |
| UON | UNLESS OTHERWISE NOTED |
| UP | UNDERPASS |
| UPRR | UNION PACIFIC RAILROAD |
| USFWS | UNITED STATES FISH AND WILDLIFE SERVICE |

## V

| | |
|---|---|
| V | VALVE, DESIGN SPEED |
| VAR | VARIABLE |
| VC | VERTICAL CURVE |
| VCP | VITRIFIED CLAY PIPE |
| VERT | VERTICAL |
| VIA | VIADUCT |
| VOL | VOLUME |

## W

| | |
|---|---|
| W | WEST, WIDTH |
| WB | WESTBOUND |
| WH | WEEP HOLE |
| WM | WIRE MESH |
| WS | WATER SURFACE |
| WSP | WELDED STEEL PIPE |
| WT | WEIGHT |
| WV | WATER VALVE |
| WW | WINGWALL |
| WWLOL | WINGWALL LAYOUT LINE |
| W/ | WITH |

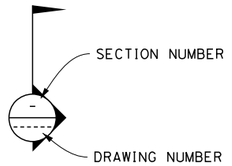
## X

| | |
|---|---|
| X SEC | CROSS SECTION |
| XING | CROSSING |

## Y

| | |
|---|---|
| YR | YEAR |
| YRS | YEARS |

## LEGEND




-E- PROPOSED ELECTRICITY LINE

-e- EXISTING ELECTRICITY LINE

-e-(oh)- EXISTING OVERHEAD ELECTRICITY LINE

-E-(OH)- PROPOSED OVERHEAD ELECTRICTY LINE

PROPOSED HST RIGHT OF WAY

PROPOSED HST TRACK CENTERLINE

RETAINING WALL

TOE OF SLOPE / TOP OF CUT

CONTROL LINE EXAMPLE "A" LINE

255+00 260+00 265+00

OR TRACK (PLAN AND ELEVATION)

REL TRACK TO BE REMOVED AND RELOCATED PER BNSF

REMOVE BASE & SURFACING

SOUND BARRIER (POTENTIAL)

DIRECTION OF FLOW

WATER SURFACE

# GENERAL NOTES

1. TRACK PROFILE IS DESIGNED AS TOP OF THE LOW RAIL. VERTICAL CLEARANCE REQUIREMENTS ARE MEASURED FROM THE TOP OF THE HIGH RAIL ON SUPERELEVATED TRACK. THE CLEARANCE ENVELOPES SHOWN DEMONSTRATE THE MINIMUM CLEARANCE REQUIREMENTS.

2. MINIMUM VERTICAL CLEARANCE REQUIREMENTS TO CANALS AND DITCHES ARE NOT KNOWN. FURTHER CONSULTATION WITH THE WATERCOURSE OWNERS WILL BE REQUIRED TO DETERMINE NECESSARY CLEARANCES.

3. THE FOLLOWING ARE ROADWAY DESIGN STANDARDS AND GUIDELINES:
   A. CALTRANS HIGHWAY DESIGN MANUAL (2012)
   B. AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (2011)
   C. AASHTO ROADSIDE DESIGN GUIDE (2011)
   D. APPLICABLE LOCAL DESIGN STANDARD AND GUIDELINES (I.E., CITY OF FRESNO)

4. THE FEMA FLOODPLAIN BOUNDARIES ARE CALLED OUT AS "LIMIT OF 100YR FEMA FLOODPLAIN". THE LIMITS OF THE MODELED 100 YEAR WATER SURFACE ELEVATIONS (WSE) ARE APPROXIMATE AND ARE MARKED WITH THE NAME OF THE WATERBODY ASSOCIATED WITH THE MODELED FLOODING, E.G. "LIMIT OF POSO CREEK FLOODPLAIN".

5. THE STRUCTURE DESIGN ASSUMES THAT THE DEPTH FROM TOR TO TOP OF DECK IS 2'-6" THROUGHOUT. HOWEVER, WHERE BALLASTED TRACK FORM IS USED, THE HEIGHT FROM TOR TO DECK SHALL BE 2'-9" PLUS AN ALLOWANCE FOR WATERPROOF MEMBRANE, AND PROTECTION LAYER IF REQUIRED. FOR SLAB TRACKFORM, THE HEIGHT FROM TOR TO DECK SHALL BE 2'-6" PLUS AN ALLOWANCE FOR WATERPROOF MEMBRANE AND PROTECTION LAYER IF REQUIRED.

6. WHERE THE VERTICAL ALIGNMENT GRADE IS LESS THAN 0.5% THE UPPER SURFACE OF THE VIADUCT STRUCTURE SHALL BE PROFILED TO GIVE A MINIMUM LONGITUDINAL FALL OF 0.5%. TYPICALLY FOR A SPAN OF 120'-00" ON A 0% GRADE SECTION OF VIADUCT THIS COULD BE ACHIEVED BY MODIFYING THE CROSS SLOPE OF THE GIRDER LINEARLY BETWEEN 0.8% AT MID-SPAN TO 2% AT EACH END.

7. WHEN LATERAL SEPARATION BETWEEN THE CONVENTIONAL RAILROAD AND HST SYSTEM IS LESS THAN 102', A SITE SPECIFIC HAZARD ANALYSIS WILL BE CONDUCTED TO DETERMINE WHAT SPECIFIC COLLISION PROTECTION MEASURES MAY NEED TO BE IMPLEMENTED.

8. RIP-RAP PROTECTION IS REQUIRED FOR EMBANKMENTS WITHIN FEMA SPECIAL FLOOD HAZARD ZONES, IN ACCORDANCE WITH DESIGN CRITERIA.

9. HST ALIGNMENT CONTROL LINE IS DESIGNED AS THE CENTERLINE BETWEEN THE TWO MAINLINE TRACKS.

10. TRACK FORM USED IN TYPICAL SECTIONS IS INDICATIVE.

DIRECTION OF TRAFFIC

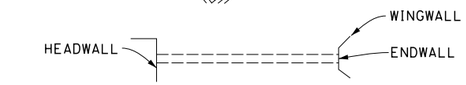
POINT OF MINIMUM VERTICAL CLEARANCE
ROAD CLOSURE (ROADWAYS)

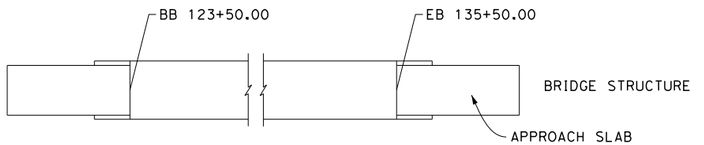
1 LINE DATA

1 3 CURVE DATA (ALIGNMENTS)
CURVE DATA (STRUCTURES)

EXISTING HIGH VOLTAGE TOWER FOOTPRINT

OG / ORIGINAL GROUND




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DESIGNED BY K. SEYMOUR
DRAWN BY P. TONKIN
CHECKED BY D. HUNT
IN CHARGE R. COFFIN
DATE 12/31/13

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HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
GENERAL
ABBREVIATIONS AND LEGENDS
SHEET 2 OF 2

CONTRACT NO. HSR 06-0003
DRAWING NO. CB0011
SCALE NO SCALE
SHEET NO. 4 OF 7

## ALIGNMENT P

| CURVE No. | DESIGN SPEED (MPH) | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| ~~13~~ | ~~250~~ | ~~2000000~~ | ~~0.00~~ | ~~0.13~~ | ~~0~~ | ~~1999~~ |

## ALIGNMENT A1

| CURVE No. | DESIGN SPEED (MPH) | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| ~~14~~ | ~~250~~ | ~~50500~~ | ~~3.50~~ | ~~1.45~~ | ~~1400~~ | ~~21393~~ |
| 15 | 250 | 45000 | 3.75 | 1.81 | 1500 | 25440.83 |
| 16 | 250 | 45000 | 3.75 | 1.81 | 1500 | 29556/22710 |

## ALIGNMENT A2

| CURVE No. | DESIGN SPEED (MPH) | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| ~~70~~ | ~~250~~ | ~~45000~~ | ~~3.75~~ | ~~1.81~~ | ~~1500~~ | ~~10257.35~~ |
| ~~71~~ | ~~250~~ | ~~45000~~ | ~~3.75~~ | ~~1.81~~ | ~~1500~~ | ~~11168.36~~ |

## ALIGNMENT L1

| CURVE No. | DESIGN SPEED (MPH) | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| 16 | 250 | 45000 | 3.75 | 1.81 | 1500 | 29556 |

## ALIGNMENT L2

| CURVE No. | DESIGN SPEED (MPH) | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| ~~16~~ | ~~250~~ | ~~45000~~ | ~~3.75~~ | ~~1.81~~ | ~~1500~~ | ~~22710~~ |
| ~~92~~ | ~~250~~ | ~~45000~~ | ~~3.75~~ | ~~1.81~~ | ~~1500~~ | ~~15609~~ |

## ALIGNMENT L4

| CURVE No. | DESIGN SPEED (MPH) | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| ~~111~~ | ~~250~~ | ~~45000~~ | ~~3.75~~ | ~~1.81~~ | ~~1500~~ | ~~22536~~ |

## ALIGNMENT WS1

| CURVE No. | DESIGN SPEED (MPH) | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| 17 | 220 | 22008.25 | 6.50 | 2.30 | 2100 | 15380 |
| 18 | 250 | 640000 | 0.00 | 0.39 | 1200 | 4007 |
| 19 | 250 | 50000 | 2.75 | 2.25 | 1200 | 2221 |
| 20 | 250 | 68000 | 2.50 | 1.18 | 1200 | 4447 |
| 21 | 250 | 105000 | 1.25 | 1.13 | 1200 | 1216 |

## ALIGNMENT WS2

| CURVE No. | DESIGN SPEED (MPH) | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| ~~80~~ | ~~250~~ | ~~60000~~ | ~~3.00~~ | ~~1.17~~ | ~~1200~~ | ~~14392~~ |

## ALIGNMENT B1

| CURVE No. | DESIGN SPEED (MPH) | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| ~~22~~ | ~~250~~ | ~~60000~~ | ~~2.75~~ | ~~1.42~~ | ~~1200~~ | ~~1200~~ |
| ~~23~~ | ~~220~~ | ~~19500.25~~ | ~~7.00~~ | ~~2.92~~ | ~~1714~~ | ~~17153~~ |
| ~~24~~ | ~~220~~ | ~~19500.25~~ | ~~7.00~~ | ~~2.92~~ | ~~1714~~ | ~~2676~~ |
| ~~25~~ | ~~220~~ | ~~30000.25~~ | ~~3.50~~ | ~~2.95~~ | ~~956~~ | ~~1291~~ |
| ~~26~~ | ~~220~~ | ~~20000.34~~ | ~~7.00~~ | ~~2.60~~ | ~~1720~~ | ~~5348~~ |

## ALIGNMENT B2

| CURVE No. | DESIGN SPEED (MPH) | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| ~~100~~ | ~~250~~ | ~~60000~~ | ~~2.75~~ | ~~1.42~~ | ~~1200~~ | ~~1200~~ |
| ~~101~~ | ~~220~~ | ~~19500.25~~ | ~~7.00~~ | ~~2.92~~ | ~~1700~~ | ~~17086.93~~ |
| ~~102~~ | ~~220~~ | ~~19600~~ | ~~7.00~~ | ~~2.84~~ | ~~1692.55~~ | ~~2375~~ |
| ~~103~~ | ~~220~~ | ~~23500~~ | ~~5.50~~ | ~~2.74~~ | ~~1331.22~~ | ~~1432.02~~ |
| ~~104~~ | ~~220~~ | ~~33000~~ | ~~3.50~~ | ~~2.37~~ | ~~1050~~ | ~~2770.34~~ |
| ~~105~~ | ~~220~~ | ~~20000~~ | ~~7.00~~ | ~~2.60~~ | ~~1720.24~~ | ~~4097.46~~ |

## ALIGNMENT B3

| CURVE No. | DESIGN SPEED (MPH) | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| ~~120~~ | ~~250~~ | ~~60000~~ | ~~2.75~~ | ~~1.42~~ | ~~1200~~ | ~~1200~~ |
| ~~121~~ | ~~220~~ | ~~19500.25~~ | ~~7.00~~ | ~~2.92~~ | ~~1700~~ | ~~17087~~ |
| ~~122~~ | ~~220~~ | ~~19600~~ | ~~7.00~~ | ~~2.84~~ | ~~1700~~ | ~~2375~~ |
| ~~123~~ | ~~130~~ | ~~10100.25~~ | ~~3.75~~ | ~~2.94~~ | ~~640~~ | ~~1245~~ |
| ~~124~~ | ~~125~~ | ~~8100.25~~ | ~~4.75~~ | ~~2.96~~ | ~~700~~ | ~~1096~~ |
| ~~125~~ | ~~145~~ | ~~9500~~ | ~~6.00~~ | ~~2.85~~ | ~~1300~~ | ~~2042~~ |

## STANDARD STATION TRACK RETURN CURVE

| DESIGN SPEED (MPH) | TOTAL LENGTH ALONG MAIN TRACK | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| ~~110~~ | ~~1364.60~~ | ~~13500~~ | ~~1.25~~ | ~~2.34~~ | ~~160~~ | ~~320.21~~ |

## B3 STATION TRACKS RETURN CURVE

| DESIGN SPEED (MPH) | TOTAL LENGTH ALONG MAIN TRACK | RADIUS (R) (FT) | ACTUAL SUPERELEVATION EA (IN) | UNBALANCED SUPERELEVATION EU (IN) | SPIRAL LENGTH LS (FT) | CURVE LENGTH LC (FT) |
|---|---|---|---|---|---|---|
| ~~80~~ | ~~991.80~~ | ~~7000~~ | ~~1.25~~ | ~~2.41~~ | ~~120~~ | ~~222.24~~ |

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY P. TONKIN
DRAWN BY P. TONKIN
CHECKED BY K. SEYMOUR
IN CHARGE R. COFFIN
DATE 09/24/14

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

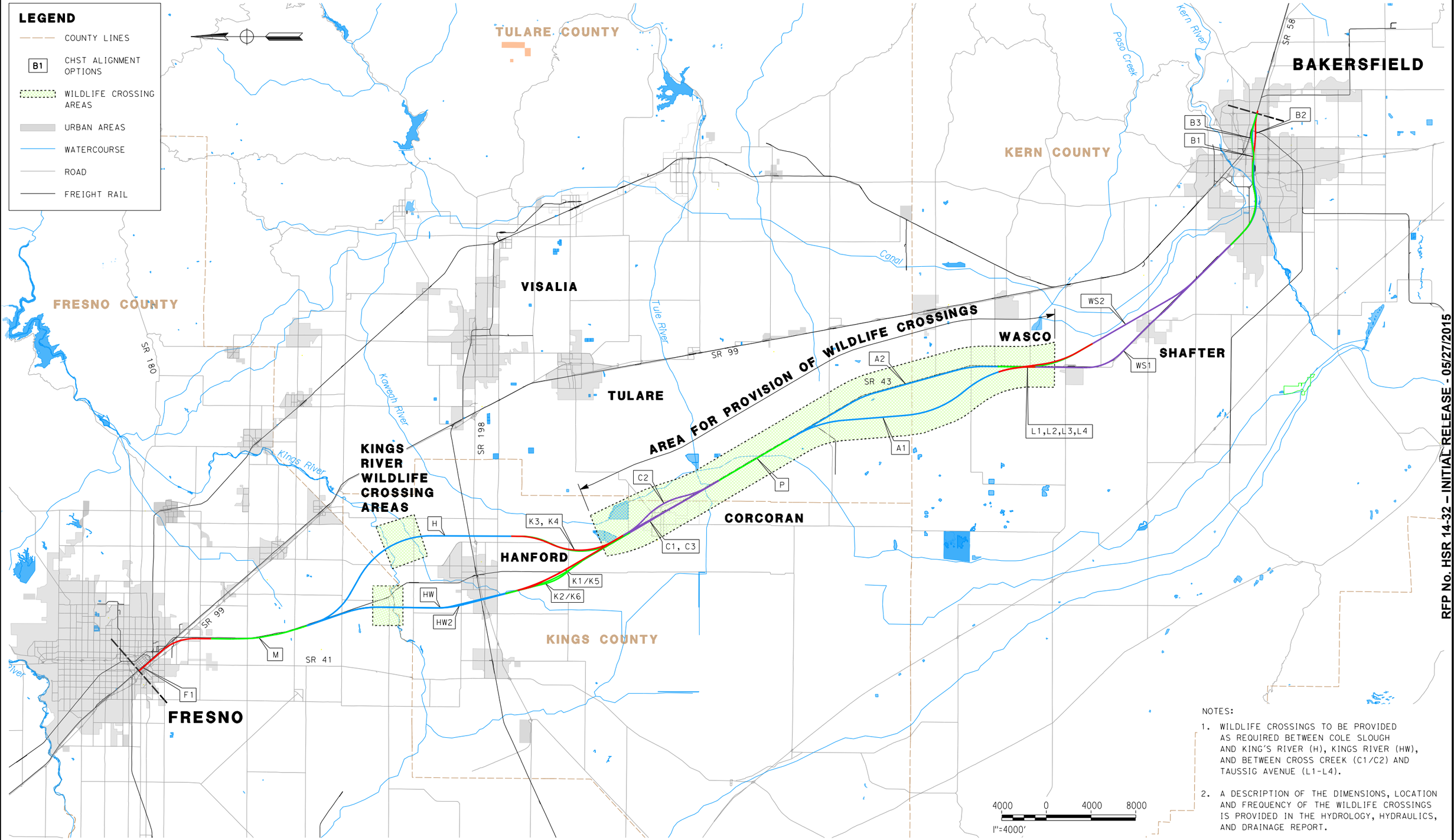
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALIGNMENT
CURVE DATA
SHEET 1 OF 1

CONTRACT NO. HSR 06-0003
DRAWING NO. GE-A0033
SCALE NO SCALE
SHEET NO. 5 OF 7

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RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY K. SEYMOUR
DRAWN BY P. TONKIN
CHECKED BY D. HUNT
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
WILDLIFE CROSSINGS
LOCATION MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. CB0016
SCALE AS SHOWN
SHEET NO. 6 OF 7

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## LEGEND:

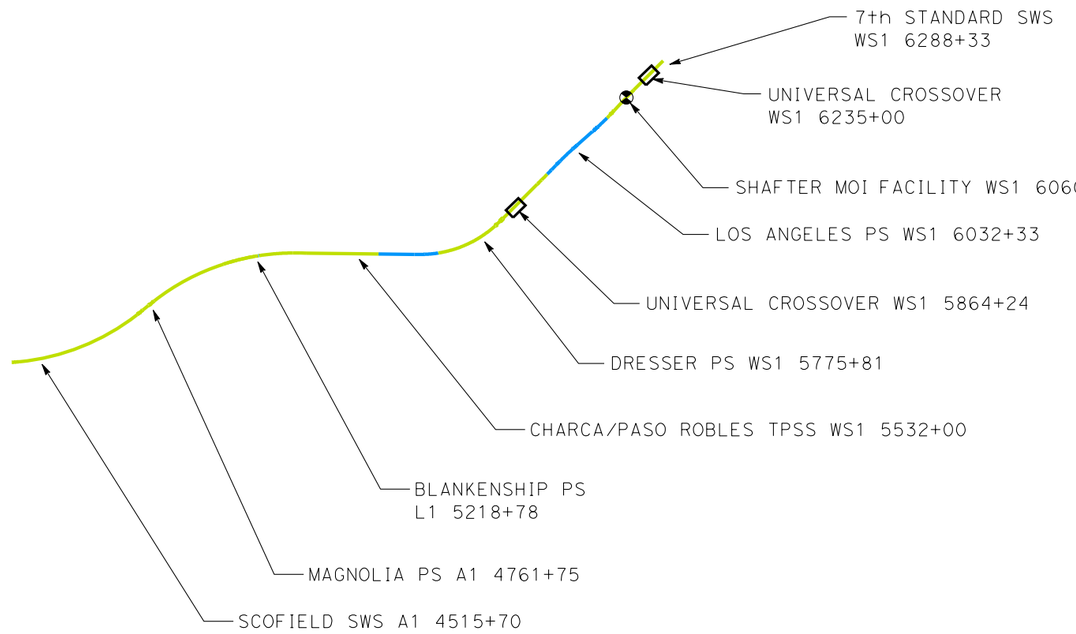
- AT-GRADE ALIGNMENT
- ELEVATED/AERIAL ALIGNMENT
- BELOW-GRADE/TRENCH ALIGNMENT
- PROPOSED CROSSOVER LOCATION
- MOI LOCATION
- HST STATION
- TPSS TRACTION POWER SUBSTATION
- PS PARALLELING STATION
- SWS SWITCHING STATION

20000 0 20000 40000

1"=20000'

NOTES:

1. RETAINED EARTHWORK STRUCTURES HAVE BEEN CONSIDERED AS AT-GRADE ALIGNMENT FOR THE PURPOSES OF THIS DRAWING.
2. TRACTION POWER FACILITY STATIONING TAKEN AS THE MIDPOINT BETWEEN THE TWO LOCATION OPTIONS PRESENTED IN THE 15% ALIGNMENT PLAN AND PROFILE DRAWINGS.




| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY J. SCHNURBUSCH
DRAWN BY J. SCHNURBUSCH
CHECKED BY A. THIBODEAU
IN CHARGE S. BURGES
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD

TRACTION POWER FACILITY, CROSSOVER & STATION LOCATION EXHIBIT

CONTRACT NO. HSR 06-0003
DRAWING NO. TP-B0002
SCALE AS SHOWN
SHEET NO. 7 OF 7

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

paul.tonkin 8/25/2014 10:10:40 AM CAHSRP-r1.tbl CHSR_PDF_half_color_200dpi.ctb \\urs.com\data\sanfrancisco\working\hmm\external\paul.tonkin01-arup.com\d0253134\TP-B0002.dgn




LEGEND

EXISTING FREIGHT RAILROAD

PROPOSED CHST

3000 0 3000 6000

1"=3000'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY E. TANAKA
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

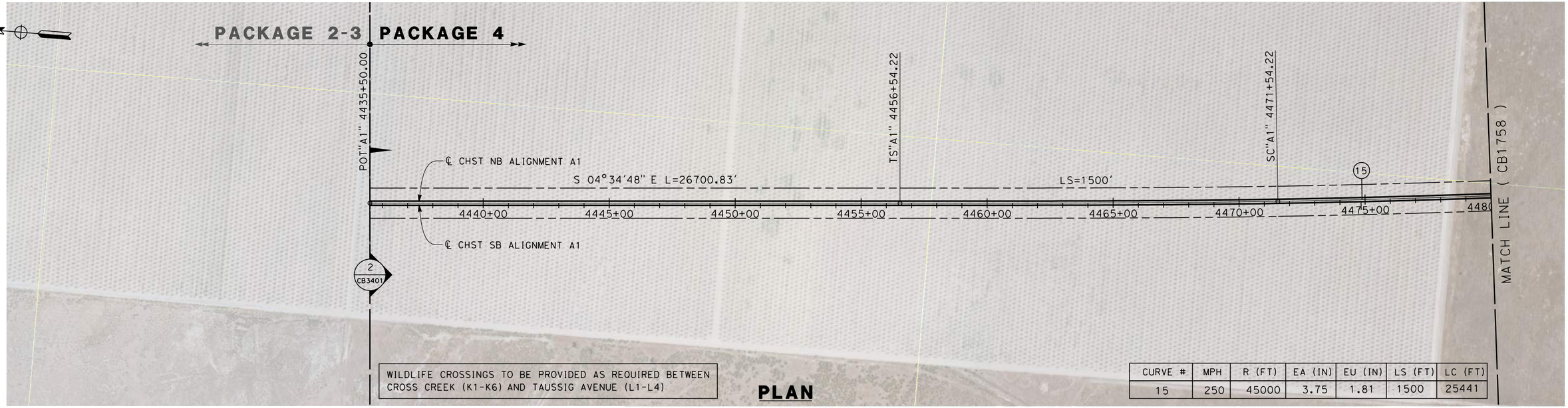
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
STA. 3919+50 TO 4925+51
KEY MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-D1100
SCALE AS SHOWN
SHEET NO. 1 OF 21

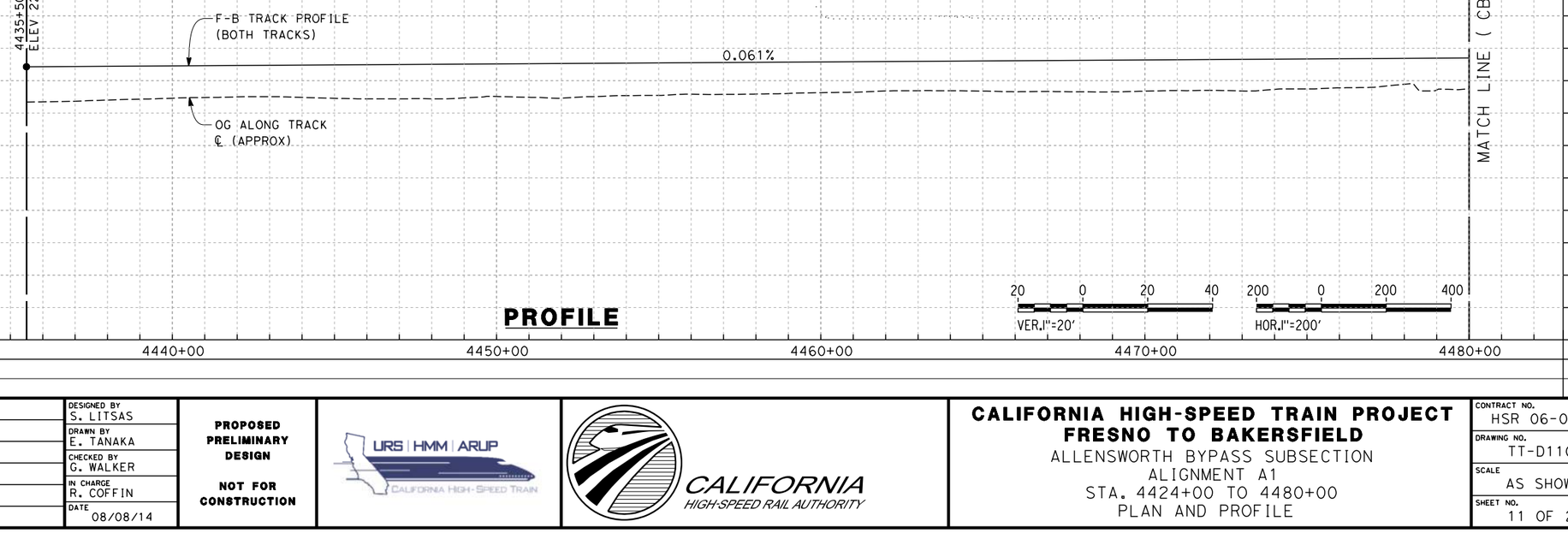
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WILDLIFE CROSSINGS TO BE PROVIDED AS REQUIRED BETWEEN CROSS CREEK (K1-K6) AND TAUSSIG AVENUE (L1-L4)

**PLAN**

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 15 | 250 | 45000 | 3.75 | 1.81 | 1500 | 25441 |




**PROFILE**

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY E. TANAKA
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

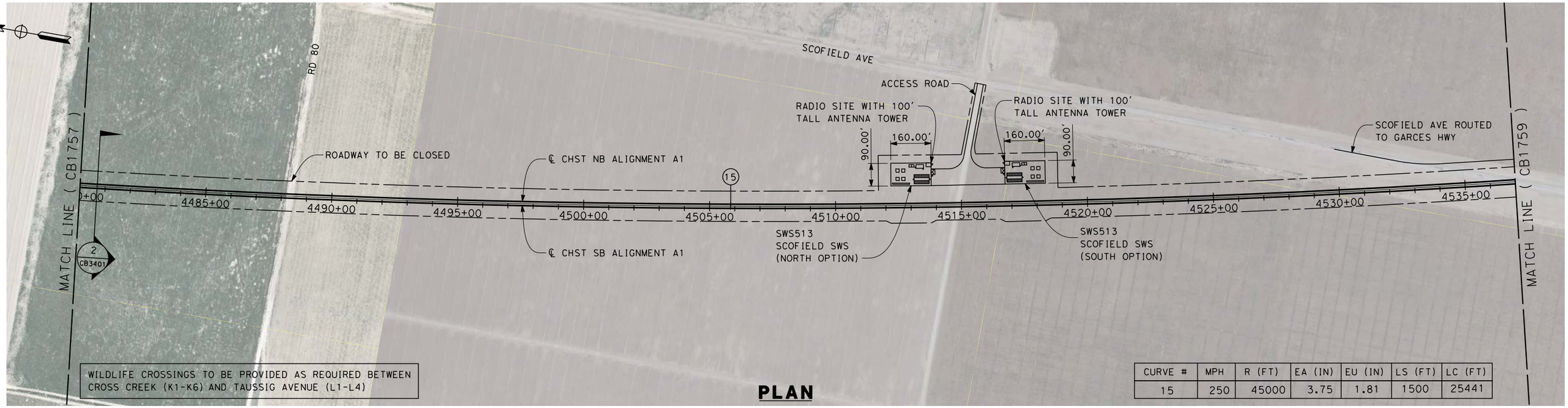
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
STA. 4424+00 TO 4480+00
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-D1101
SCALE AS SHOWN
SHEET NO. 11 OF 21

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

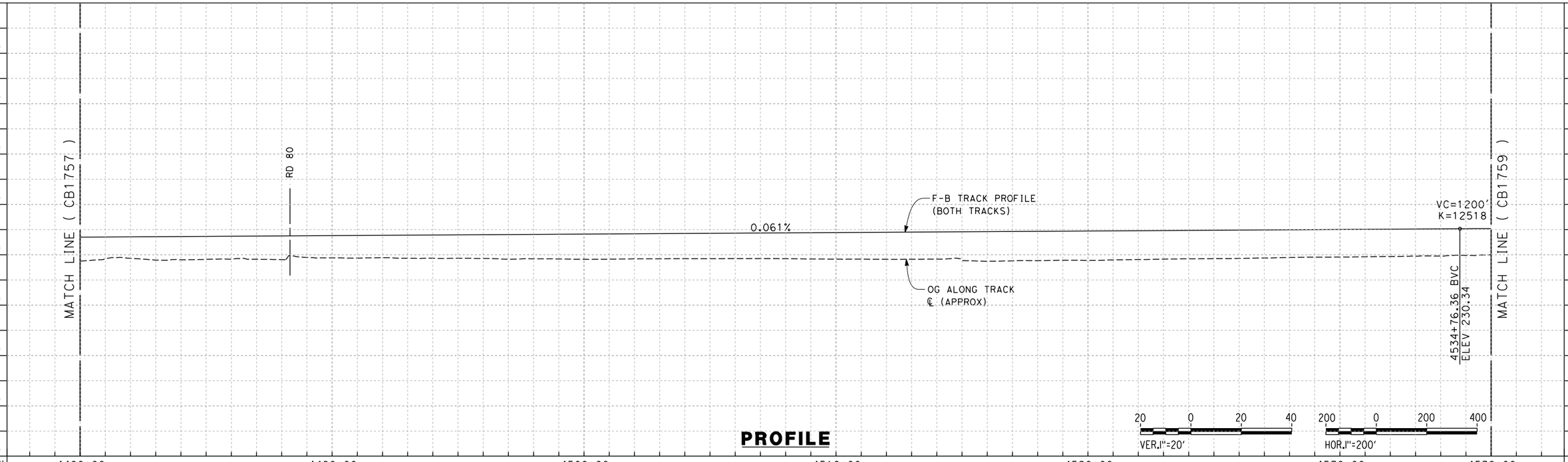
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paul.tonkin




WILDLIFE CROSSINGS TO BE PROVIDED AS REQUIRED BETWEEN CROSS CREEK (K1-K6) AND TAUSSIG AVENUE (L1-L4)

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 15 | 250 | 45000 | 3.75 | 1.81 | 1500 | 25441 |

## PLAN




## PROFILE

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY E. TANAKA
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 05/23/14

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

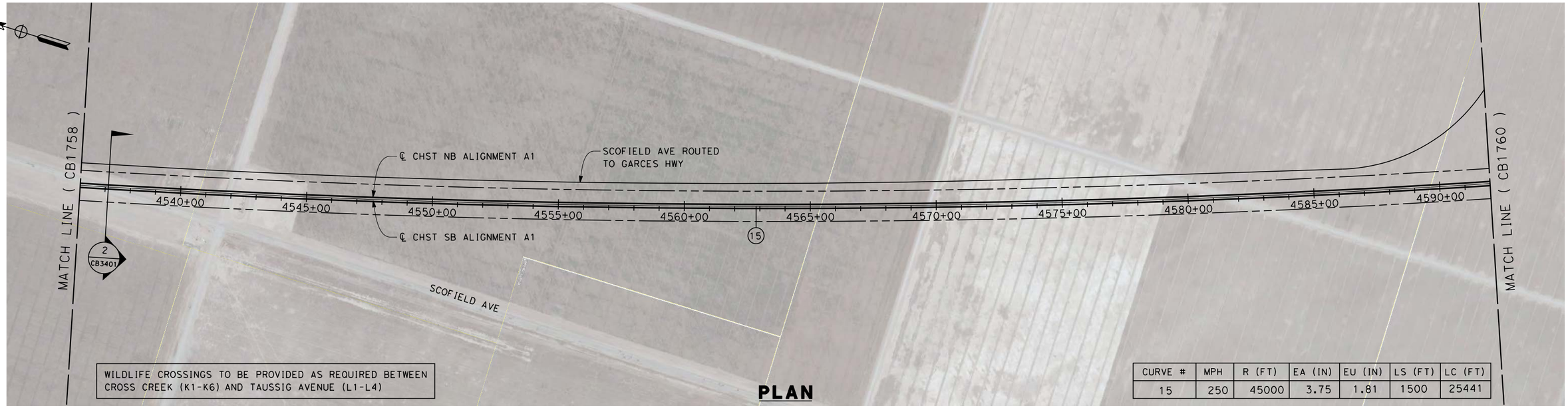
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
STA. 4480+00 TO 4536+00
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1758
SCALE AS SHOWN
SHEET NO. 12 OF 21

**RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015**

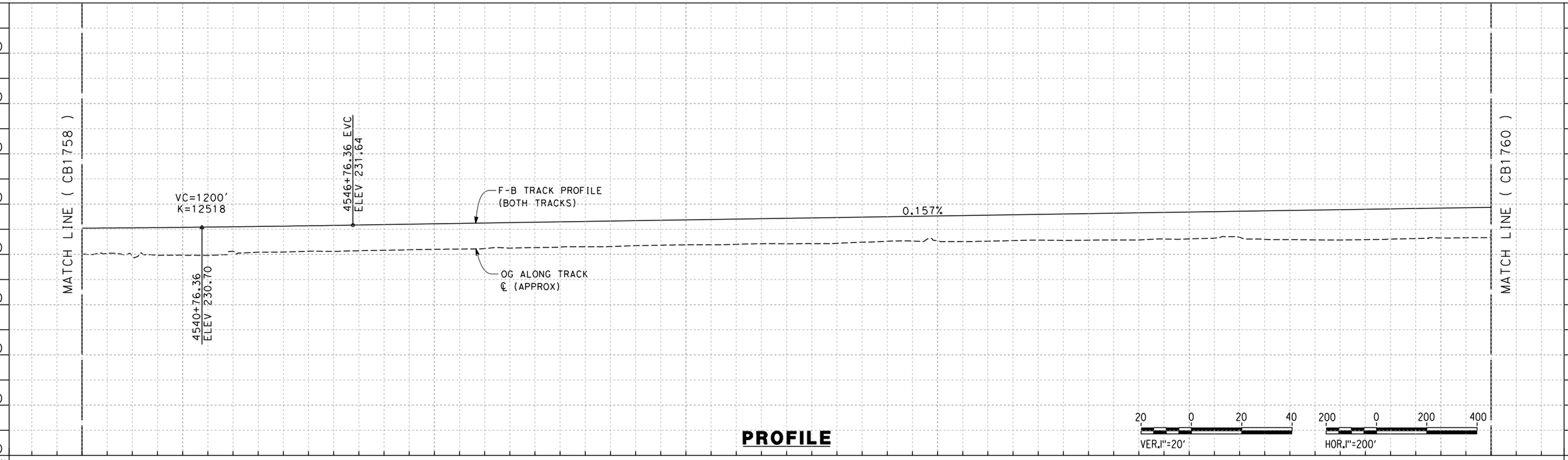
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paul.tonkin




WILDLIFE CROSSINGS TO BE PROVIDED AS REQUIRED BETWEEN CROSS CREEK (K1-K6) AND TAUSSIG AVENUE (L1-L4)

**PLAN**

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 15 | 250 | 45000 | 3.75 | 1.81 | 1500 | 25441 |




**PROFILE**

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY E. TANAKA
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

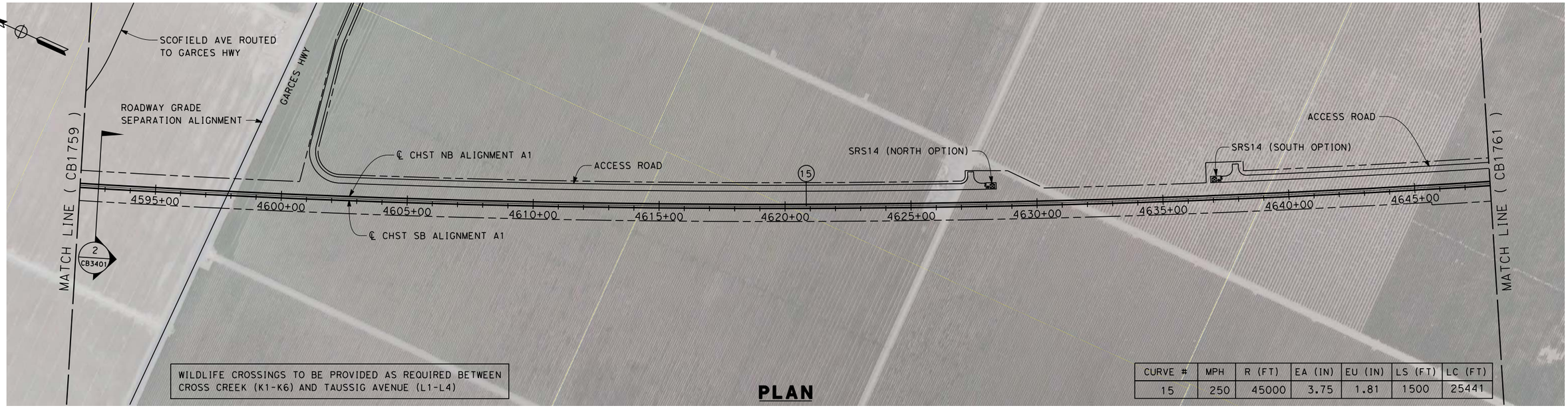
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD

ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
STA. 4536+00 TO 4592+00
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1759
SCALE AS SHOWN
SHEET NO. 13 OF 21

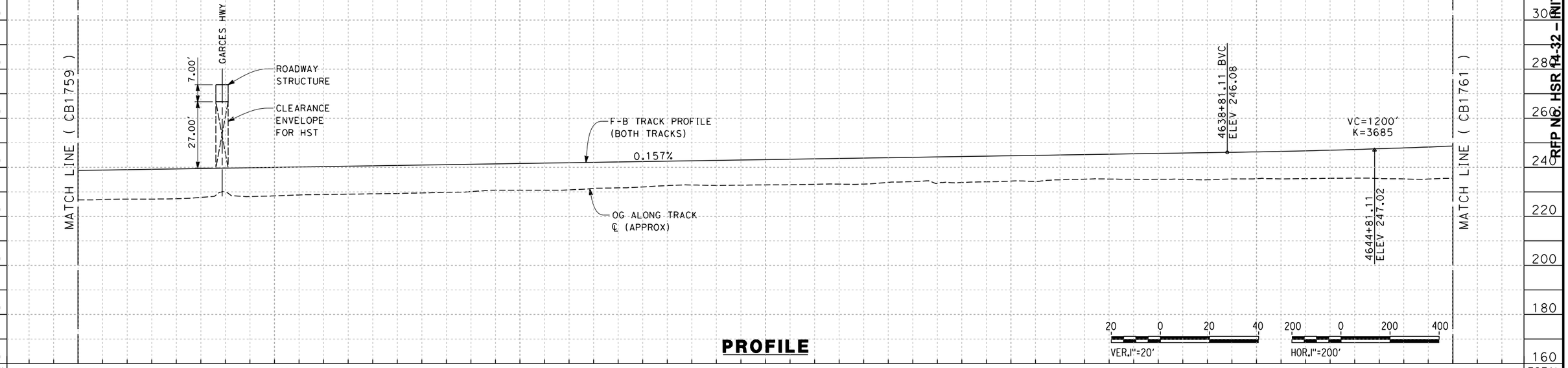
RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

stephen.litsas 12/12/2013 4:22:00 PM c:\pwworking\hmm\external\paul.tonkin01-arup.com\d0123214\FB-CB-1759-A1.dgn




**PLAN**

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 15 | 250 | 45000 | 3.75 | 1.81 | 1500 | 25441 |




**PROFILE**

| STATION | 4592+00 | 4600+00 | 4610+00 | 4620+00 | 4630+00 | 4640+00 | 4648+00 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | |
| CY Emb | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY E. TANAKA
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

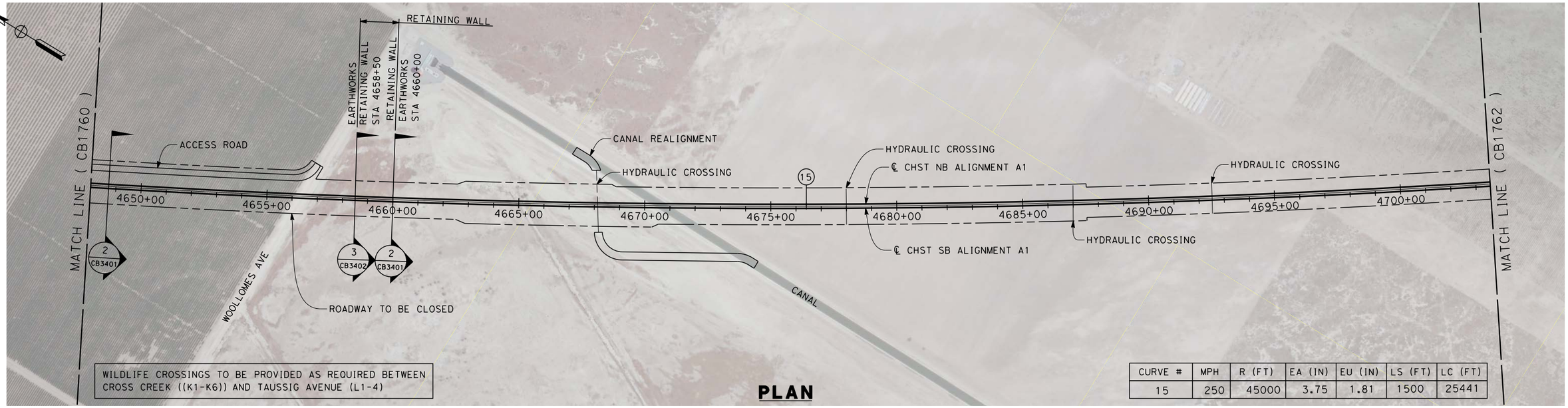
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
STA. 4592+00 TO 4648+00
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1760
SCALE AS SHOWN
SHEET NO. 14 OF 21

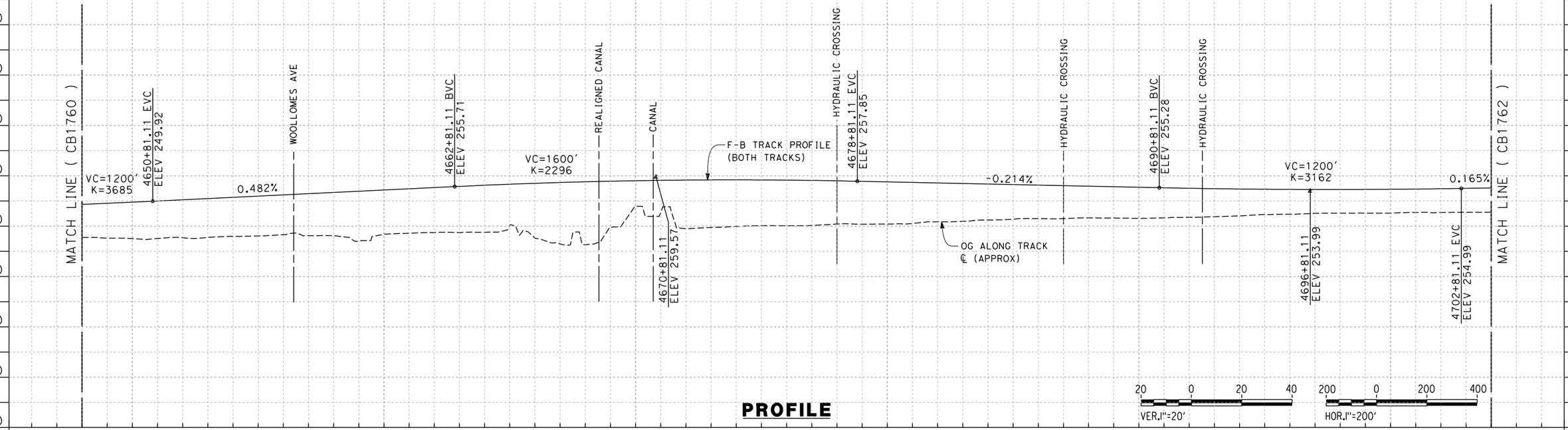
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12/12/2013 4:22:49 PM
stephen.litsas




**PLAN**

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 15 | 250 | 45000 | 3.75 | 1.81 | 1500 | 25441 |




**PROFILE**

| STATION | 4648+00 | 4650+00 | 4660+00 | 4670+00 | 4680+00 | 4690+00 | 4700+00 | 4704+00 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | |
| CY Emb | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY P. TONKIN
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

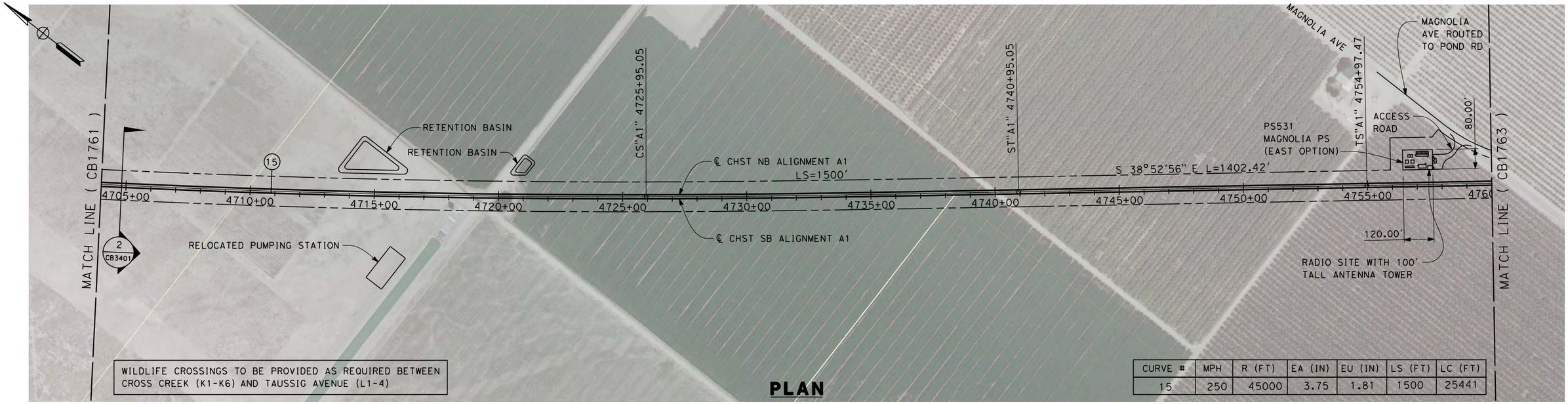
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
STA. 4648+00 TO 4704+00
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-D1102
SCALE AS SHOWN
SHEET NO. 15 OF 21

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

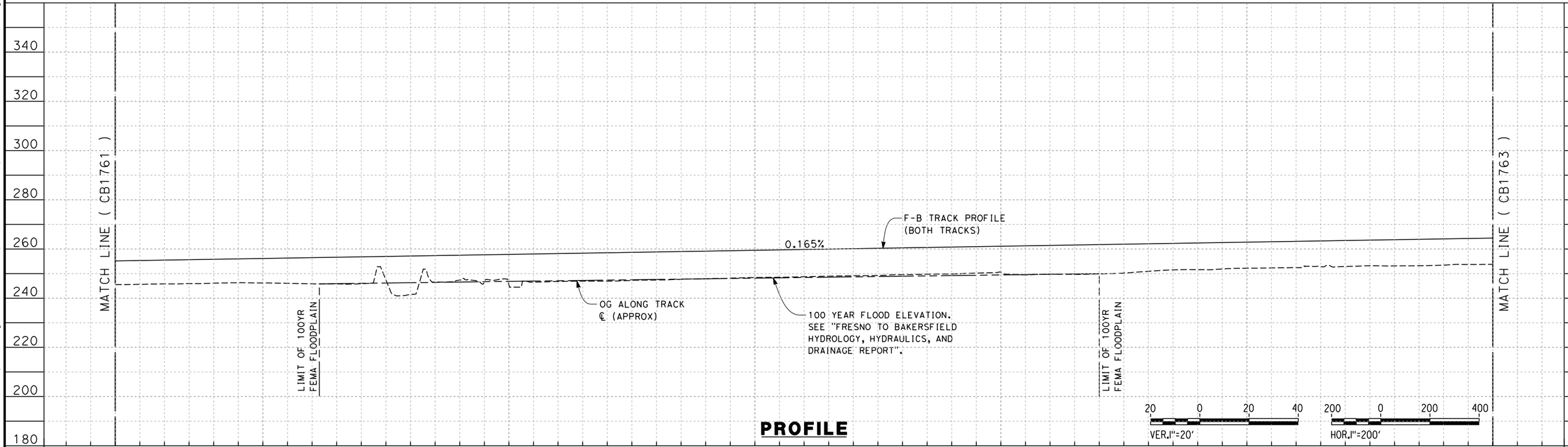
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8/7/2014 4:06:57 PM
paul.tonkin




WILDLIFE CROSSINGS TO BE PROVIDED AS REQUIRED BETWEEN CROSS CREEK (K1-K6) AND TAUSSIG AVENUE (L1-4)

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 15 | 250 | 45000 | 3.75 | 1.81 | 1500 | 25441 |

## PLAN




## PROFILE

| STATION | 4704+00 | 4710+00 | 4720+00 | 4730+00 | 4740+00 | 4750+00 | 4760+00 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | |
| CY Emb | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY E. TANAKA
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

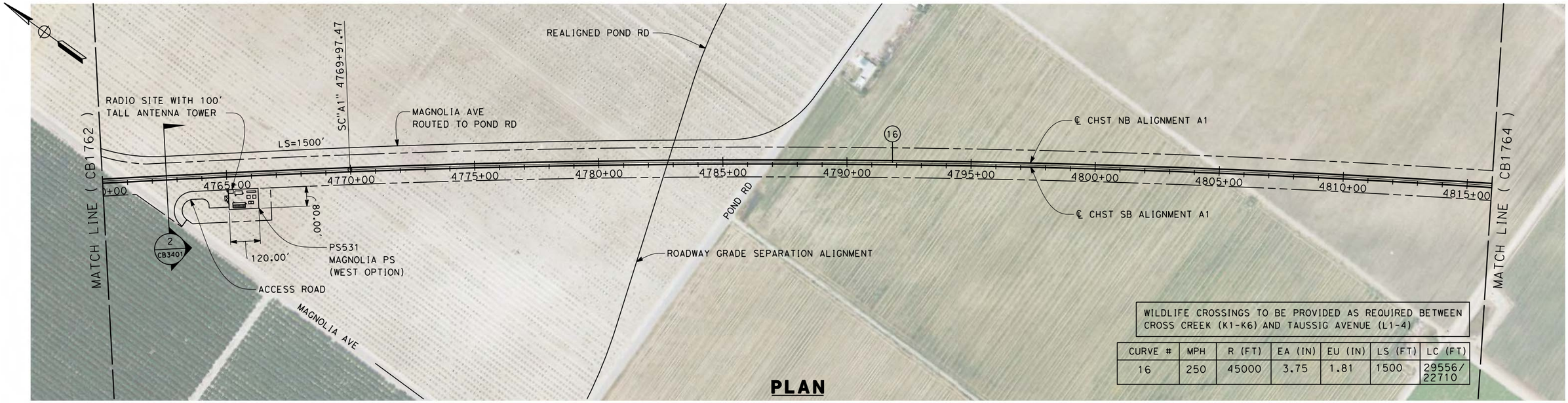
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
STA. 4704+00 TO 4760+00
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1762
SCALE AS SHOWN
SHEET NO. 16 OF 21

RFP NO. HSR 14-32 – INITIAL RELEASE - 05/27/2015

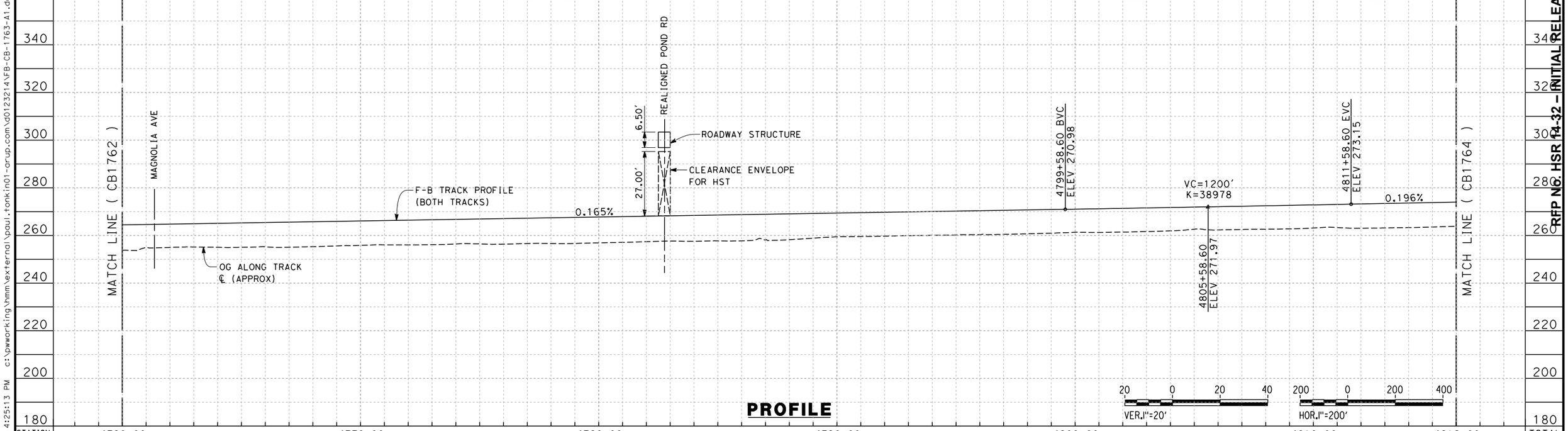
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12/12/2013 4:24:32 PM
stephen.litsas




WILDLIFE CROSSINGS TO BE PROVIDED AS REQUIRED BETWEEN CROSS CREEK (K1-K6) AND TAUSSIG AVENUE (L1-4)

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 16 | 250 | 45000 | 3.75 | 1.81 | 1500 | 29556/ 22710 |

**PLAN**




**PROFILE**

| STATION | 4760+00 | 4770+00 | 4780+00 | 4790+00 | 4800+00 | 4810+00 | 4816+00 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | |
| CY Emb | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY E. TANAKA
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

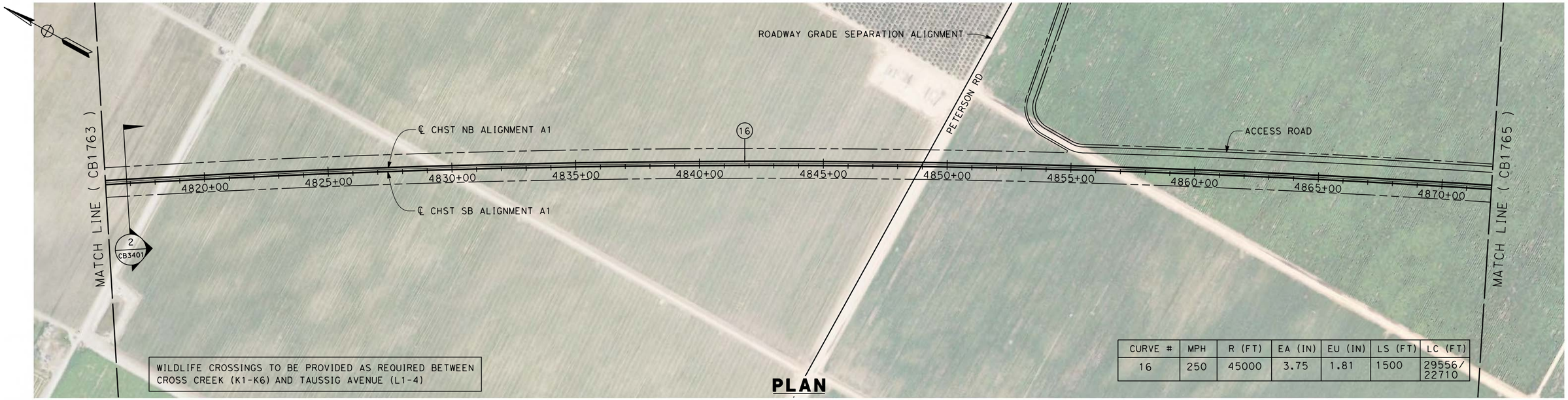
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
STA. 4760+00 TO 4816+00
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1763
SCALE AS SHOWN
SHEET NO. 17 OF 21

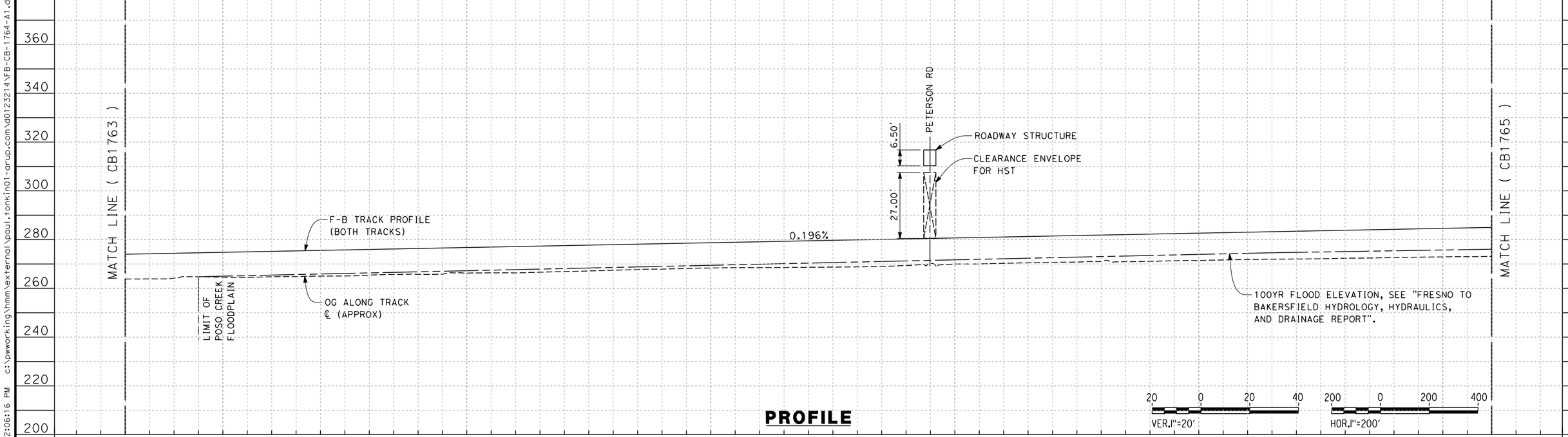
RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 16 | 250 | 45000 | 3.75 | 1.81 | 1500 | 29556/ 22710 |

**PLAN**




**PROFILE**

| STATION | 4816+00 | 4820+00 | 4830+00 | 4840+00 | 4850+00 | 4860+00 | 4870+00 | 4872+00 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | |
| CY Emb | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY E. TANAKA
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 05/23/14

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

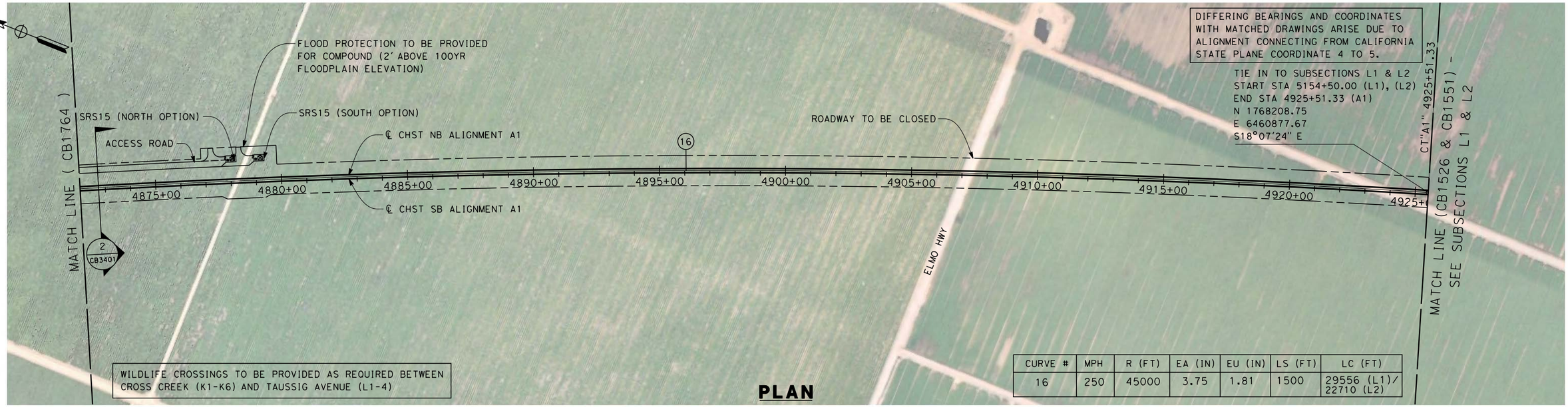
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
STA. 4816+00 TO 4872+00
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1764
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SHEET NO. 18 OF 21

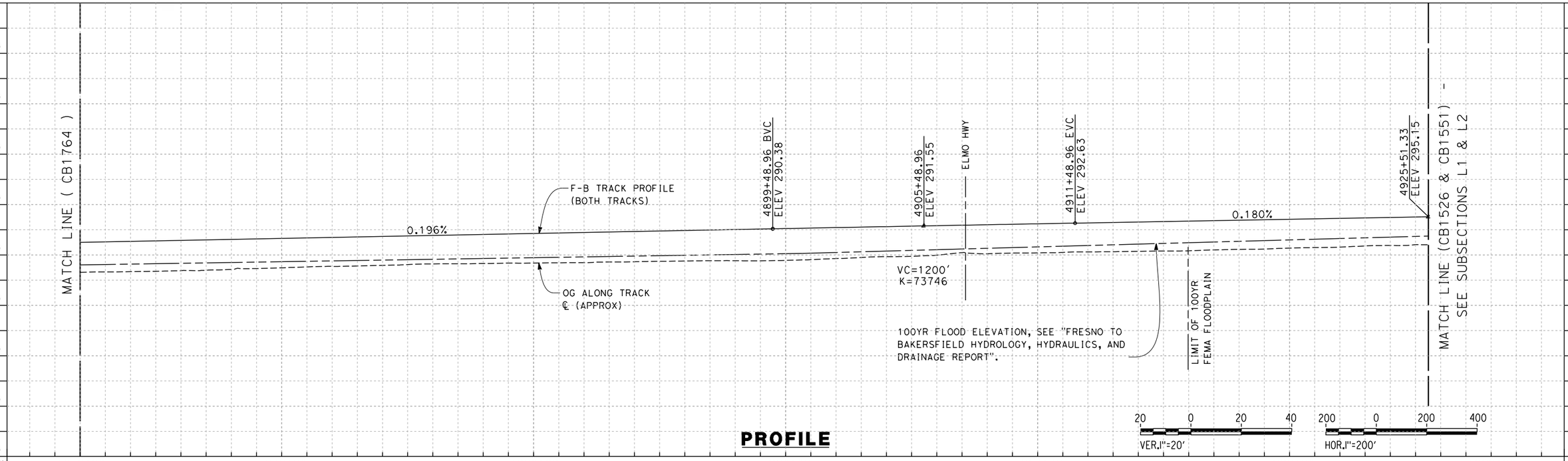
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**PLAN**

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 16 | 250 | 45000 | 3.75 | 1.81 | 1500 | 29556 (L1)/ 22710 (L2) |




**PROFILE**

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY E. TANAKA
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 05/23/14

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

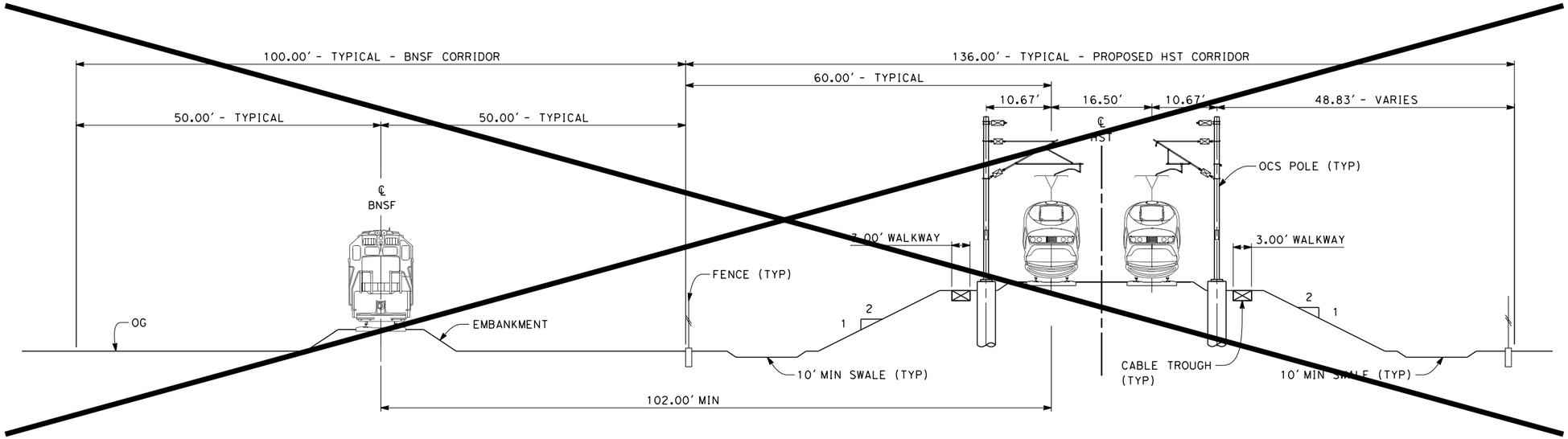
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
STA. 4872+00 TO 4925+51
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1765
SCALE AS SHOWN
SHEET NO. 19 OF 21

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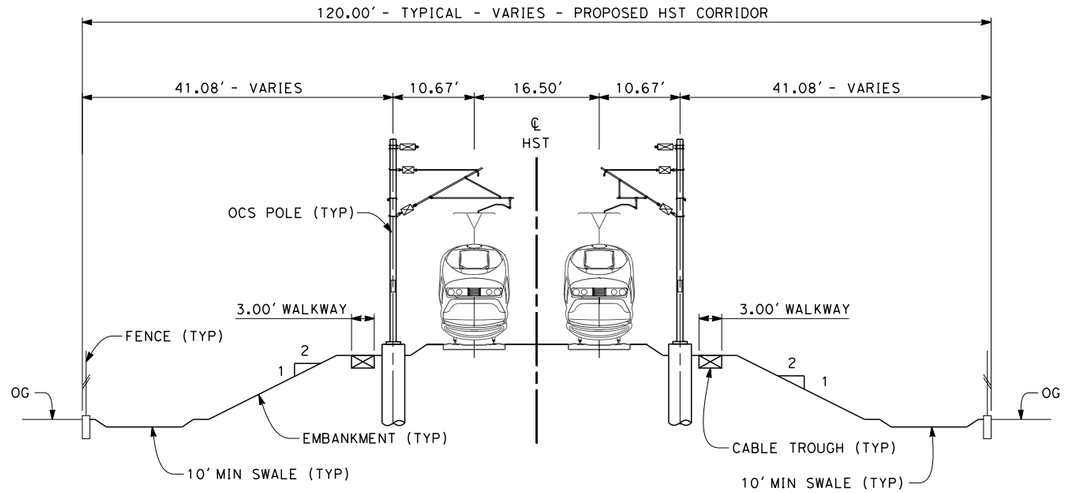
NOTES:

1. TRACKFORM SHOWN IS INDICATIVE
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS
3. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.




## SECTION 1

TWIN TRACK - ADJACENT TO SINGLE TRACK BNSF
STA 3919+50 THROUGH STA 3967+75




## SECTION 2

TWIN TRACK - AT-GRADE WITH OPEN DRAINAGE
STA 3967+75 THROUGH STA 3982+20
STA 4085+95 THROUGH STA 4925+51.33

10 0 10 20
1"=10'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY S. LITSAS
DRAWN BY E. TANAKA
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 08/08/14

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
California High-Speed Train

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD

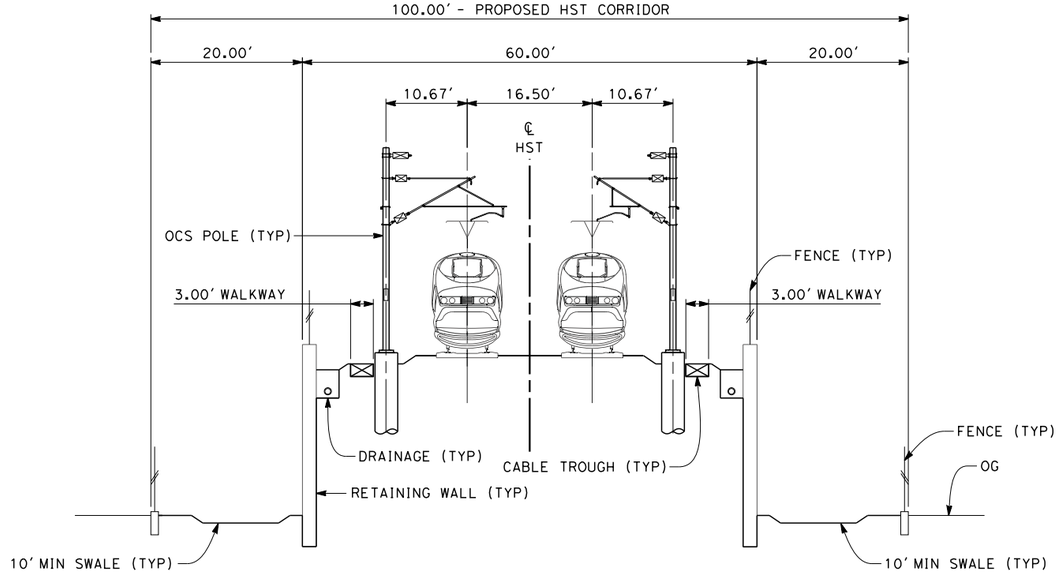
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. CB3401
SCALE AS SHOWN
SHEET NO. 20 OF 21

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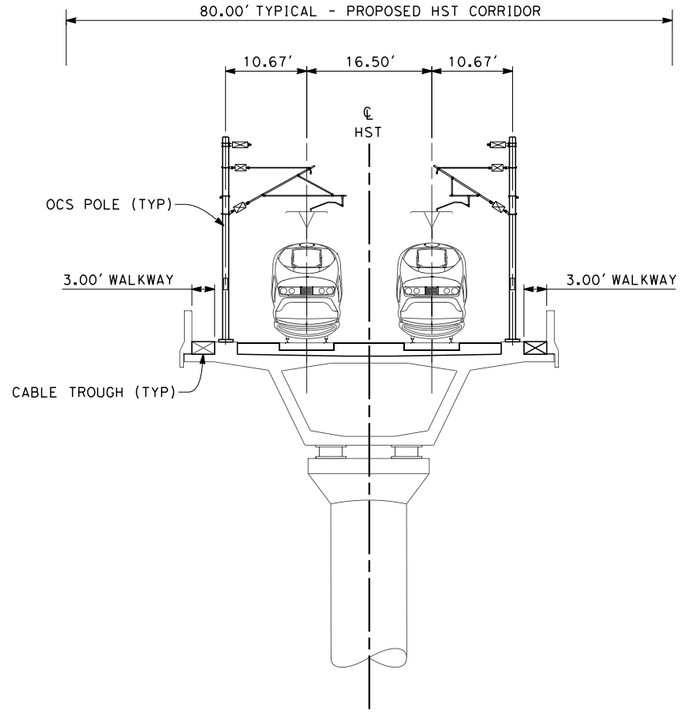
NOTES:

1. TRACKFORM SHOWN IS INDICATIVE
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS
3. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.
4. LEFT SIDE IS RETAINED EMBANKMENT AND RIGHT SIDE IS EMBANKMENT WITH OPEN DRAINAGE FROM STA 4658+50 THROUGH 4660+00.




## SECTION 3

TWIN TRACK - RETAINED EMBANKMENT
STA 3982+20 THROUGH STA 4005+25
STA 4067+65 THROUGH STA 4085+95
STA 4658+50 THROUGH STA 4660+00 (SEE NOTE 4)




## SECTION 4

TWIN TRACK - AERIAL VIADUCT
STA 4005+25 THROUGH STA 4067+65

10 0 10 20
1"=10'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY E. TANAKA
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

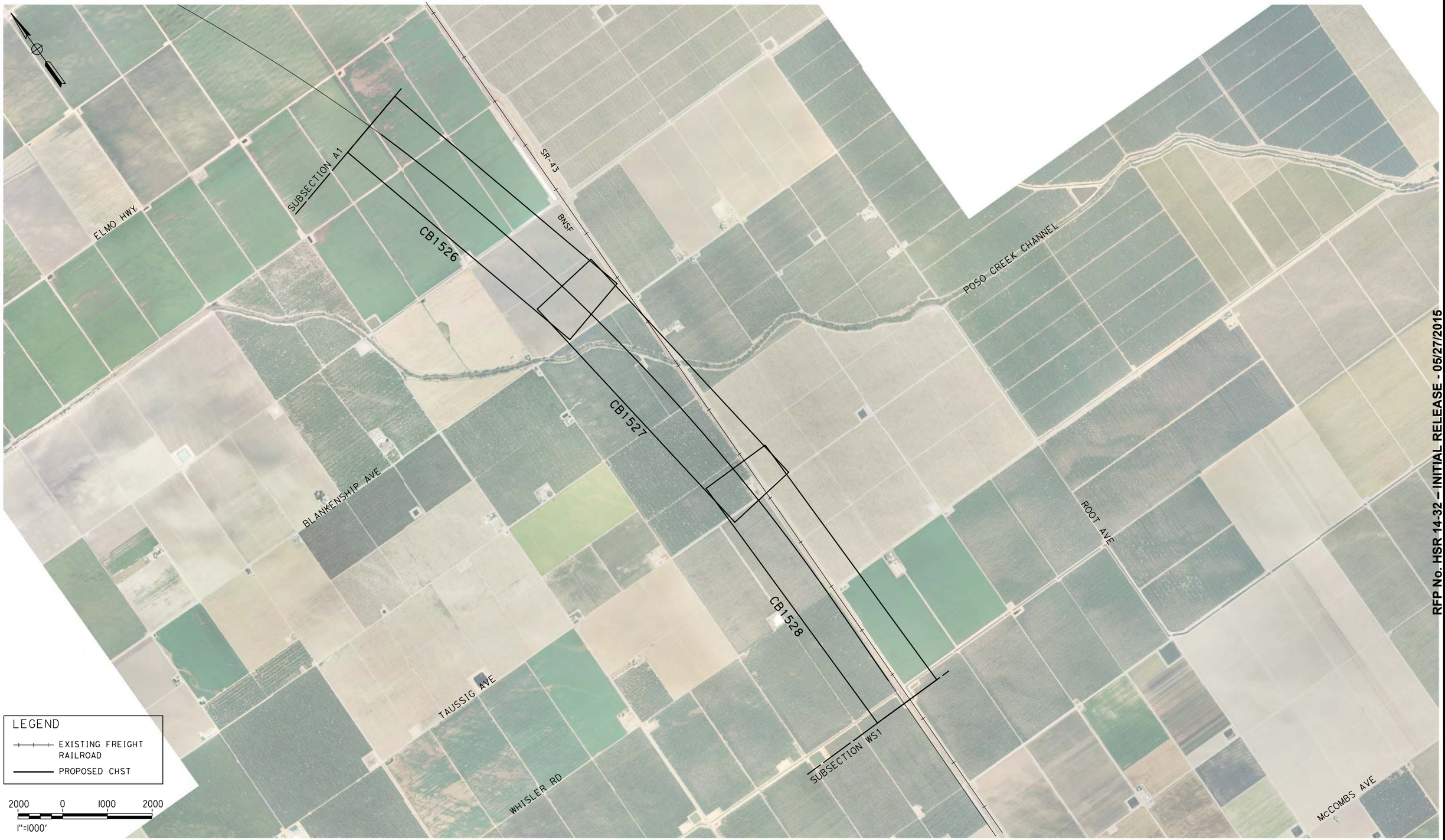
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-D3101
SCALE AS SHOWN
SHEET NO. 21 OF 21

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RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

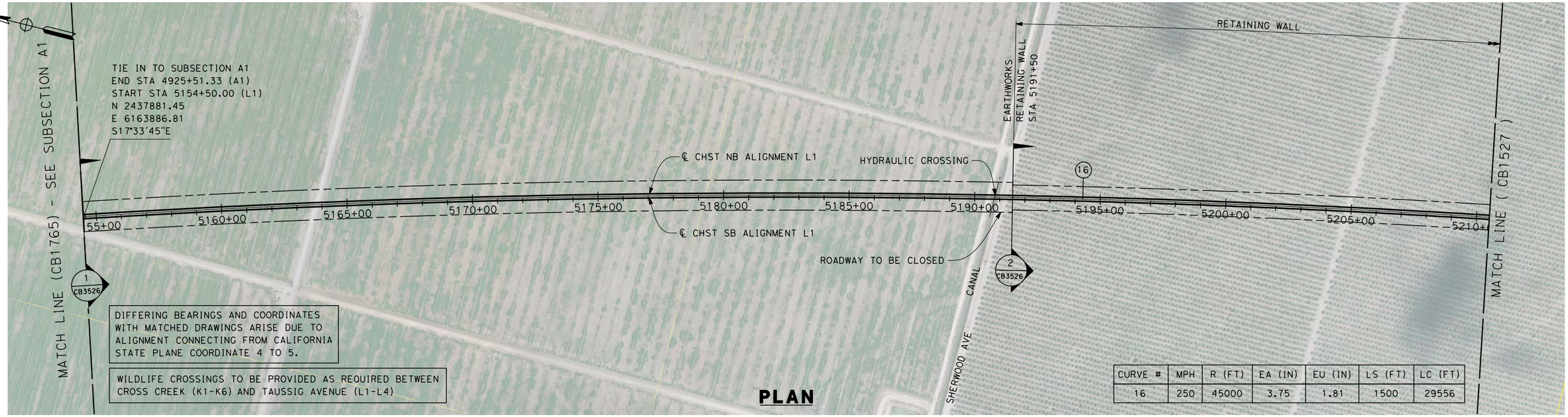
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
POSO CREEK SUBSECTION
ALIGNMENT L1
STA. 5154+50 TO 5322+33
KEY MAP

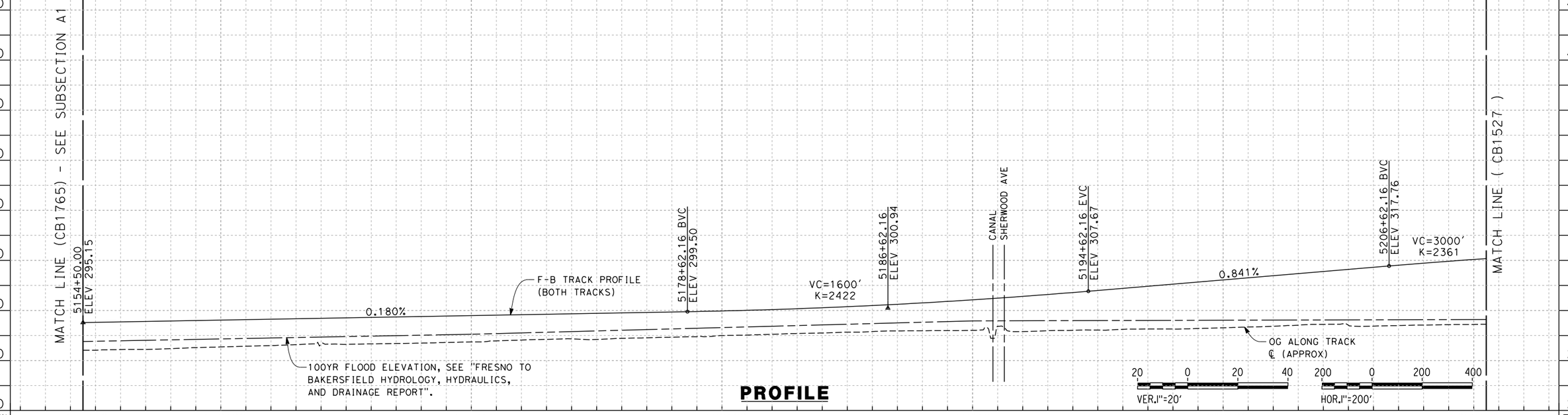
CONTRACT NO. HSR 06-0003
DRAWING NO. CB1525
SCALE AS SHOWN
SHEET NO. 1 OF 6

eron.sudhausen 12/9/2013 5:51:45 PM c:\pwworking\hmm\external\eron.sudhausen-arup.com\d0123030\VFB-CB-1525-L1.dgn




**PLAN**

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 16 | 250 | 45000 | 3.75 | 1.81 | 1500 | 29556 |




**PROFILE**

| STATION | 5154+50 | 5160+00 | 5170+00 | 5180+00 | 5190+00 | 5200+00 | 5210+50 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | |
| CY Emb | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

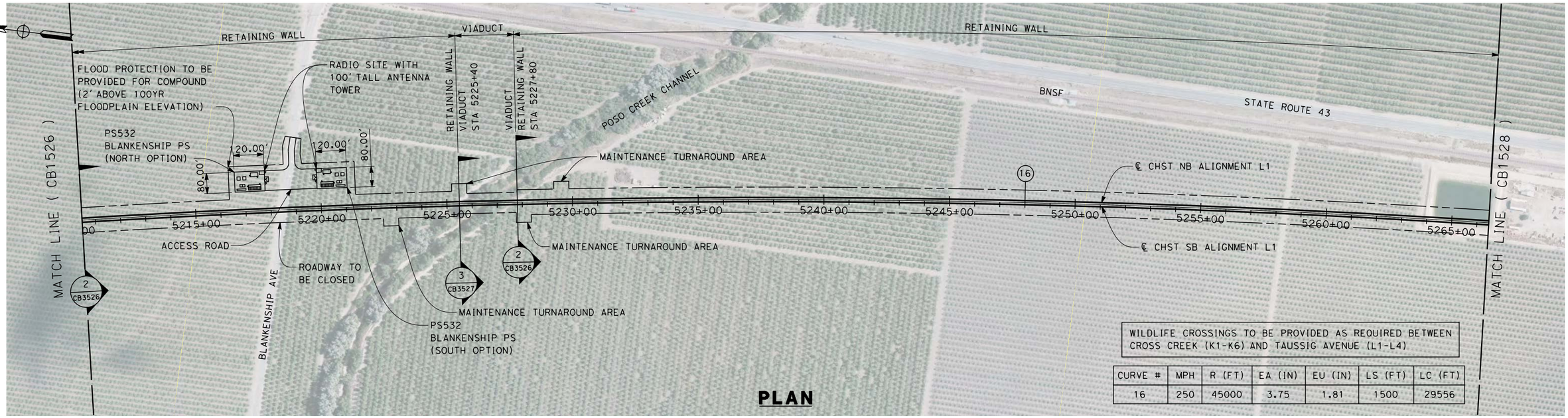
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
POSO CREEK SUBSECTION
ALIGNMENT L1
STA. 5154+50 TO 5210+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1526
SCALE AS SHOWN
SHEET NO. 2 OF 6

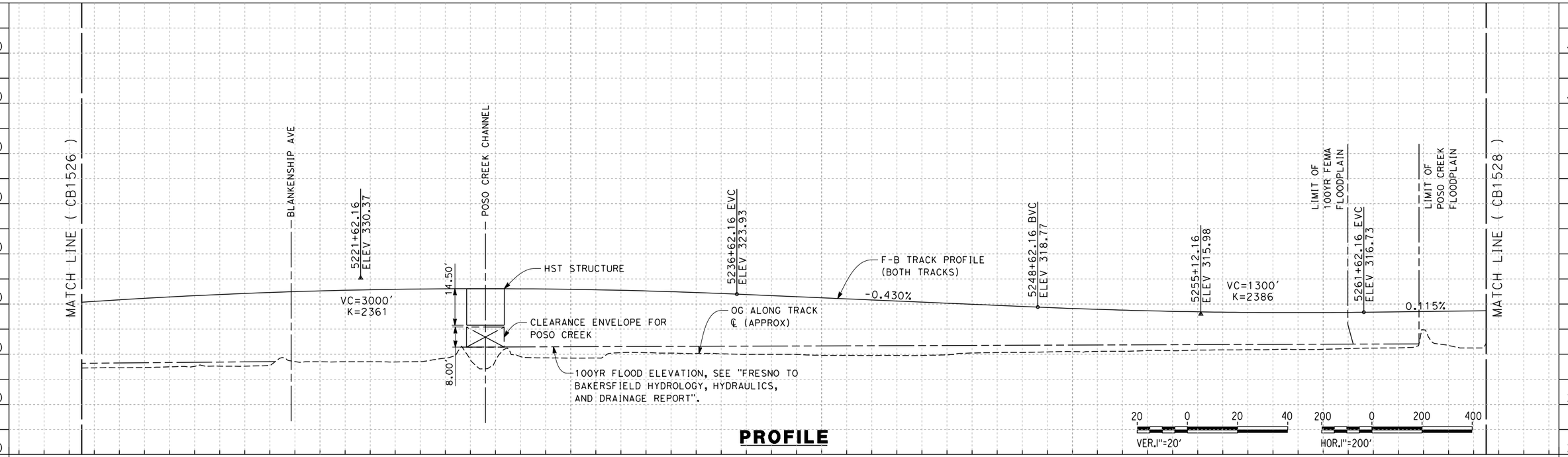
RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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eron.sudhausen




| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 16 | 250 | 45000 | 3.75 | 1.81 | 1500 | 29556 |

**PLAN**




**PROFILE**

| STATION | 5210+50 | 5220+00 | 5230+00 | 5240+00 | 5250+00 | 5260+00 | 5266+50 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | |
| CY Emb | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

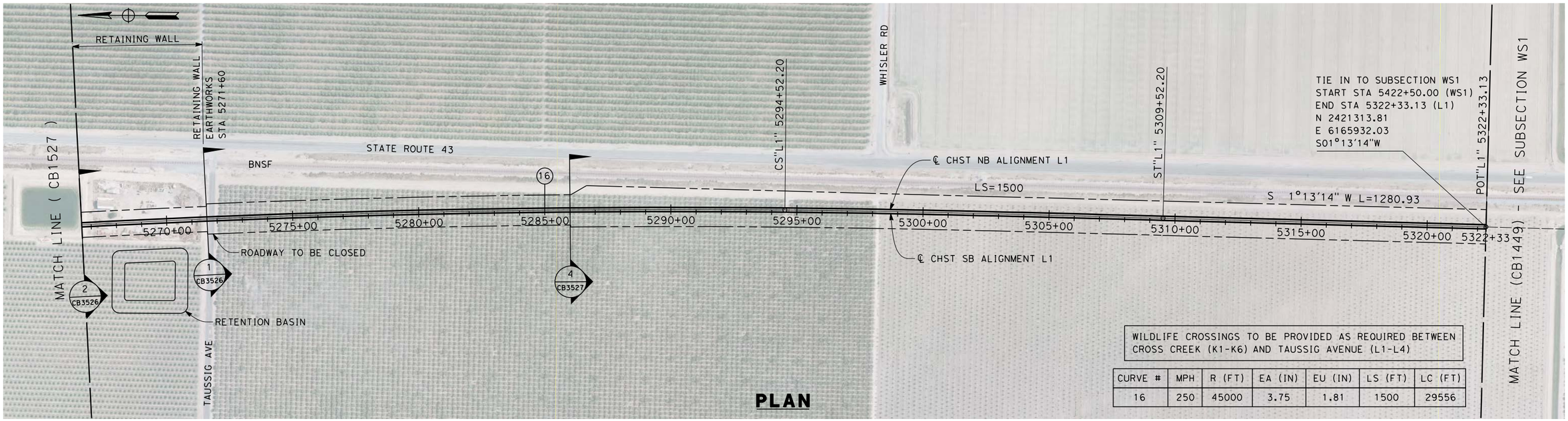
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
POSO CREEK SUBSECTION
ALIGNMENT L1
STA. 5210+50 TO 5266+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1527
SCALE AS SHOWN
SHEET NO. 3 OF 6

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

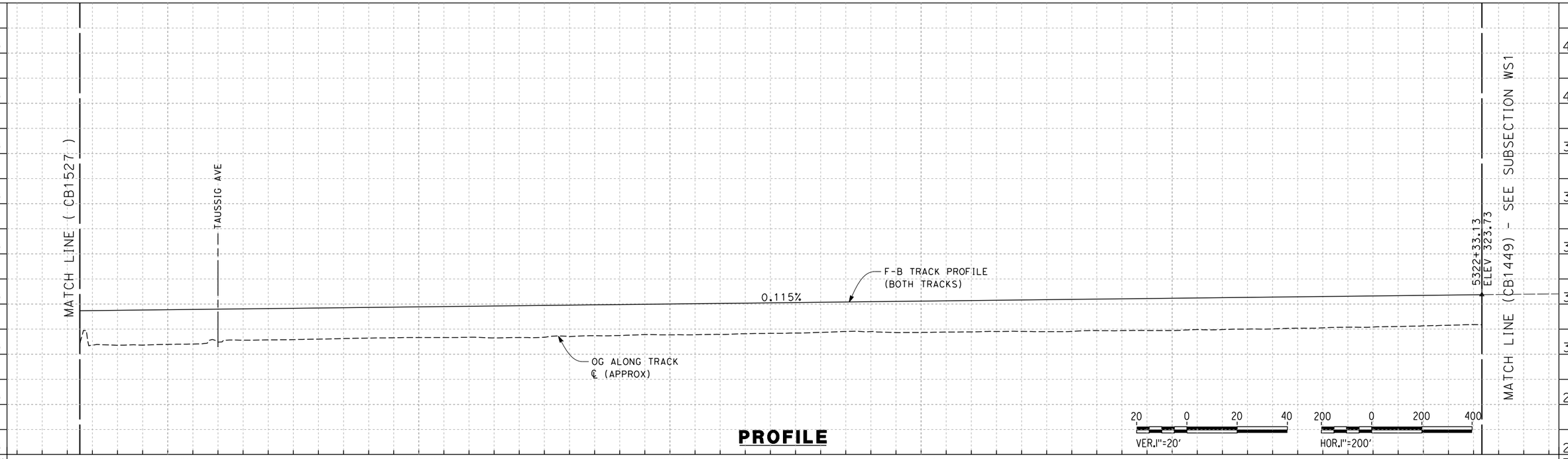
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eron.sudhausen




**PLAN**

WILDLIFE CROSSINGS TO BE PROVIDED AS REQUIRED BETWEEN CROSS CREEK (K1-K6) AND TAUSSIG AVENUE (L1-L4)

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 16 | 250 | 45000 | 3.75 | 1.81 | 1500 | 29556 |




**PROFILE**

| STATION | 5266+50 | 5270+00 | 5280+00 | 5290+00 | 5300+00 | 5310+00 | 5320+00 | 5322+33 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | |
| CY Emb | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

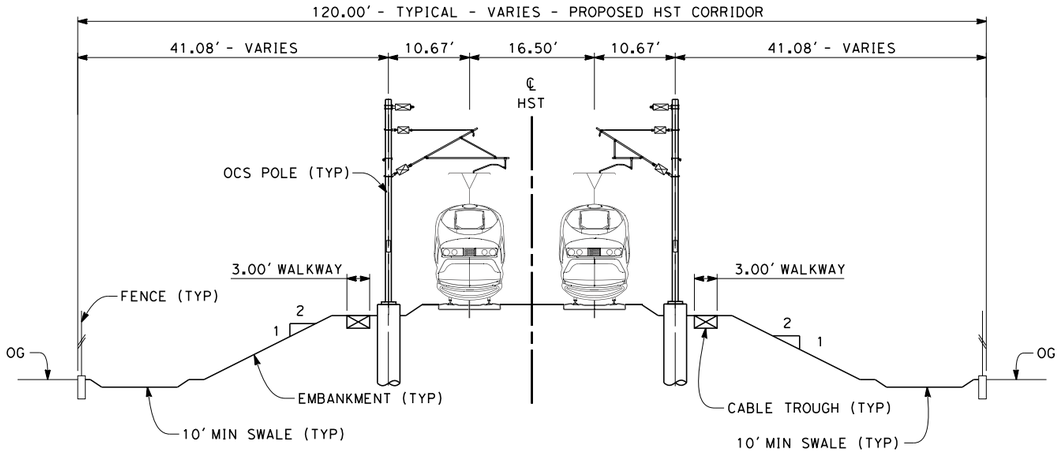
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
POSO CREEK SUBSECTION
ALIGNMENT L1
STA. 5266+50 TO 5322+33
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1528
SCALE AS SHOWN
SHEET NO. 4 OF 6

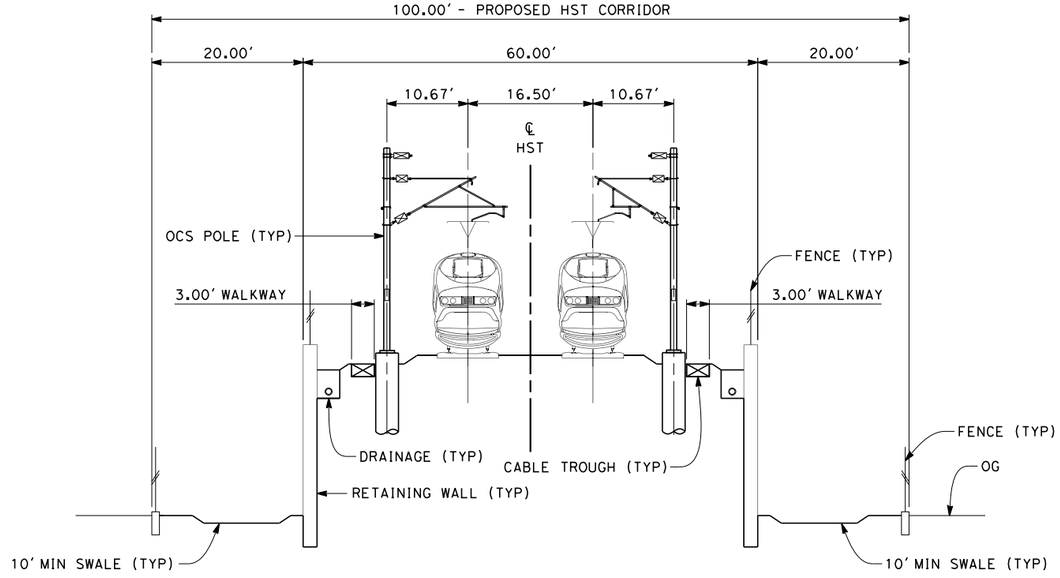
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12/12/2013 8:10:37 PM
eron.sudhausen




## SECTION 1

TWIN TRACK - AT-GRADE WITH OPEN DRAINAGE
STA 5154+50 THROUGH STA 5191+50
STA 5271+60 THROUGH STA 5286+00




## SECTION 2

TWIN TRACK - RETAINED EMBANKMENT
STA 5191+50 THROUGH STA 5225+40
STA 5227+80 THROUGH STA 5271+60

10 0 10 20
1"=10'

NOTES:

1. TRACKFORM SHOWN IS INDICATIVE
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS
3. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

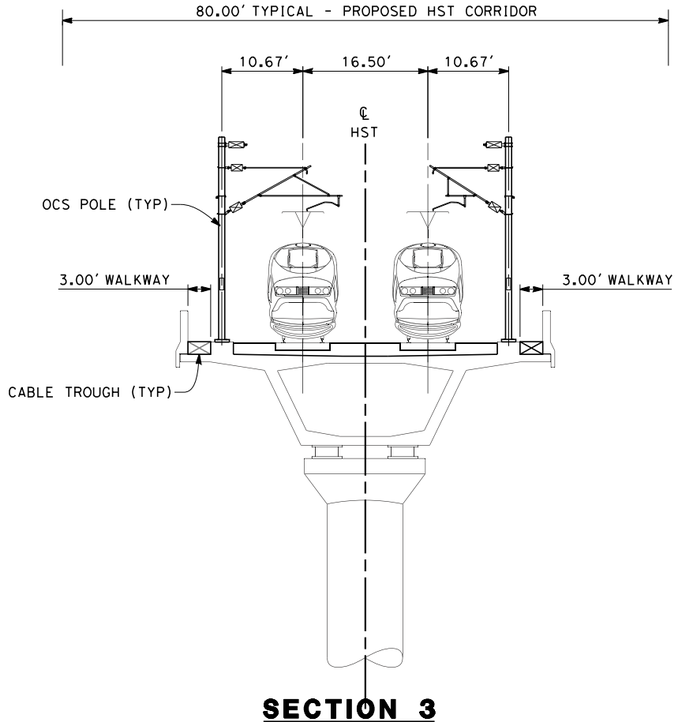
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
POSO CREEK SUBSECTION
ALIGNMENT L1
TYPICAL SECTIONS

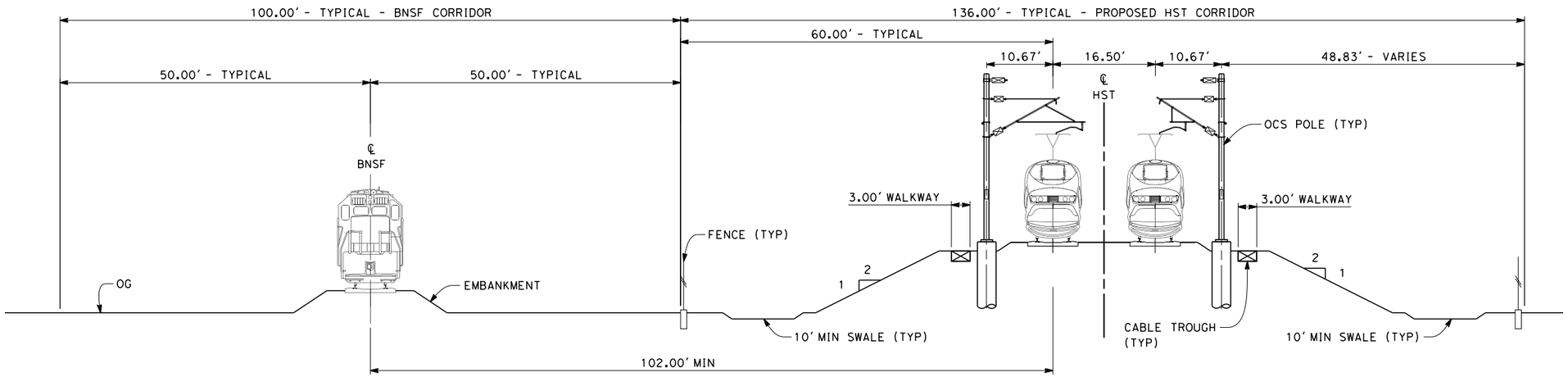
CONTRACT NO. HSR 06-0003
DRAWING NO. CB3526
SCALE AS SHOWN
SHEET NO. 5 OF 6

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## SECTION 3

TWIN TRACK - AERIAL VIADUCT
STA 5225+40 THROUGH STA 5227+80




## SECTION 4

TWIN TRACK - ADJACENT TO SINGLE TRACK BNSF
STA 5286+00 TO STA 5322+33

NOTES:

1. TRACKFORM SHOWN IS INDICATIVE
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS
3. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES

10 0 10 20
1"=10'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
POSO CREEK SUBSECTION
ALIGNMENT L1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. CB3527
SCALE AS SHOWN
SHEET NO. 6 OF 6

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RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

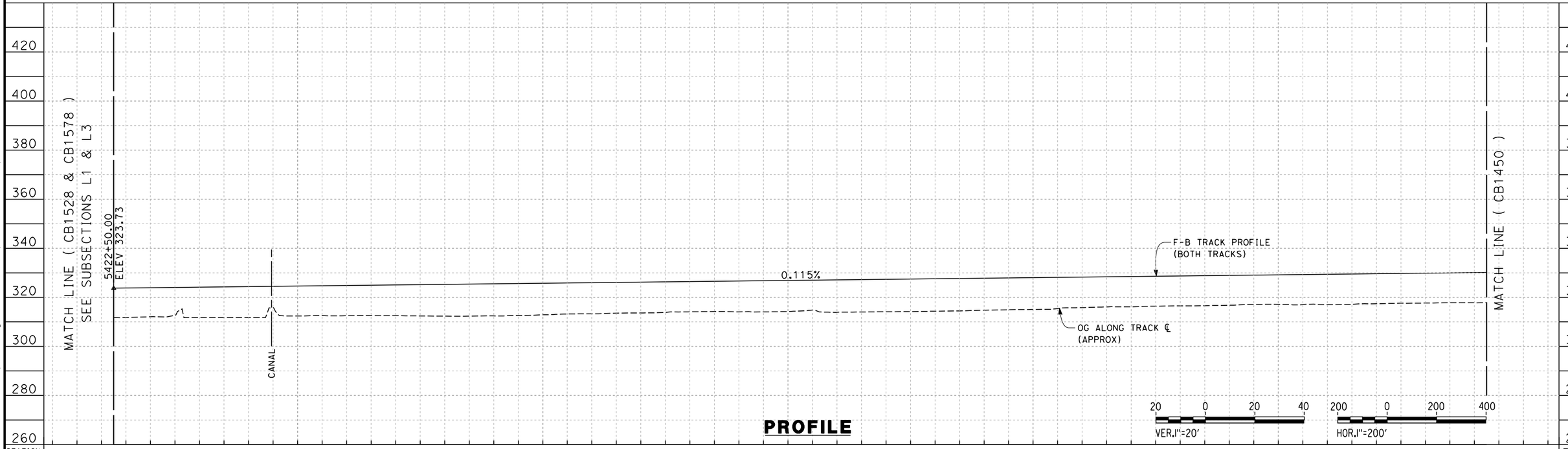
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5422+50 TO 6511+99
KEYPLAN

CONTRACT NO. HSR-06-0003
DRAWING NO. TT-D1150
SCALE AS SHOWN
SHEET NO. 1 OF 35

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**PLAN**




**PROFILE**

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

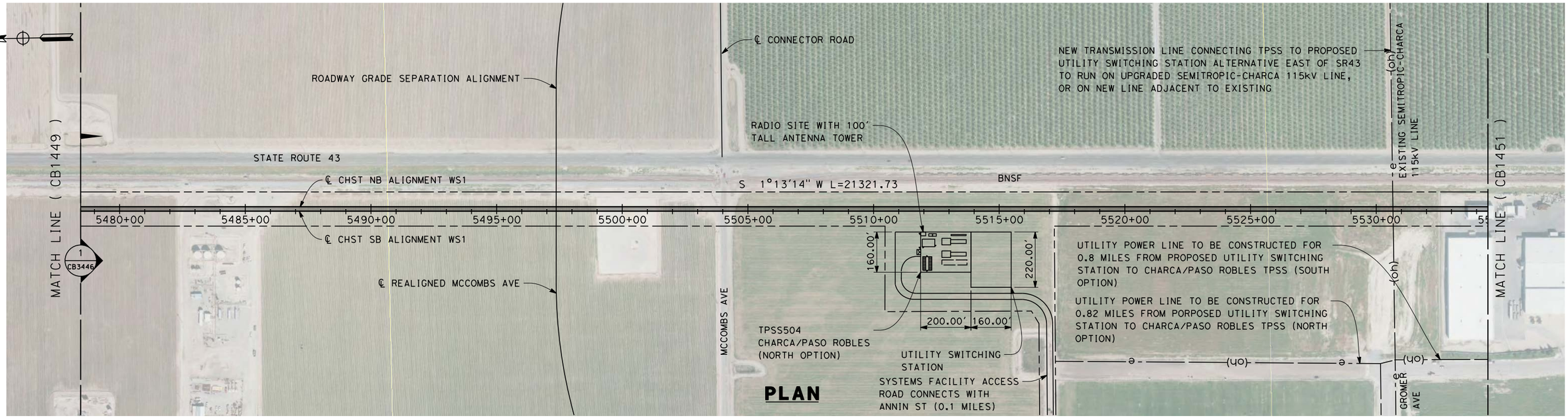
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD

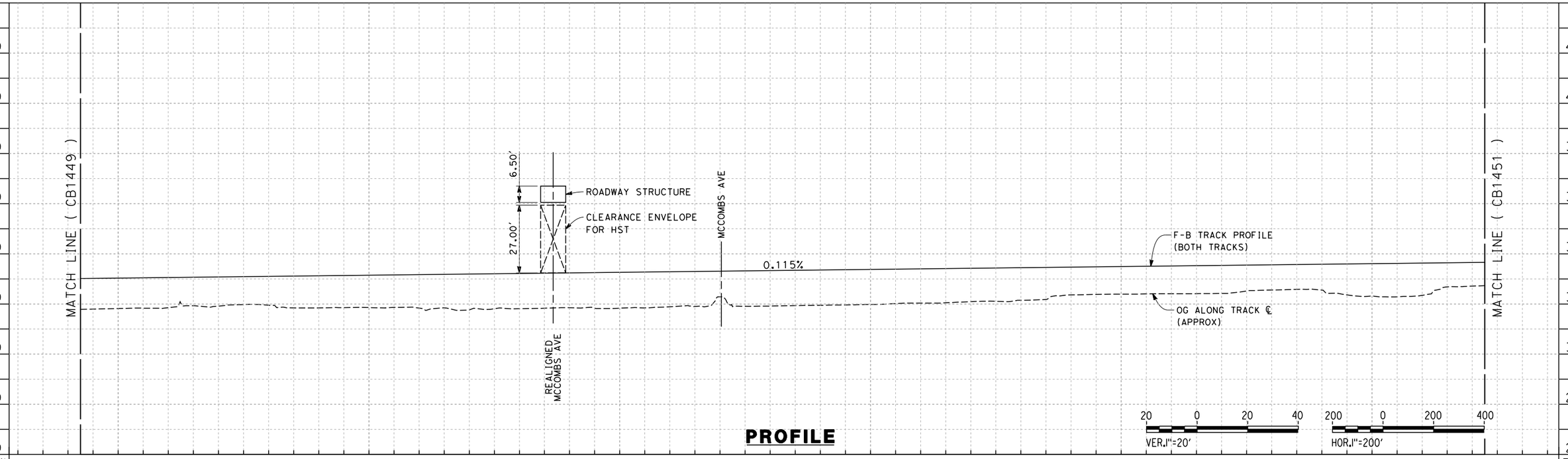
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5422+50 TO 5478+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1449
SCALE AS SHOWN
SHEET NO. 2 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

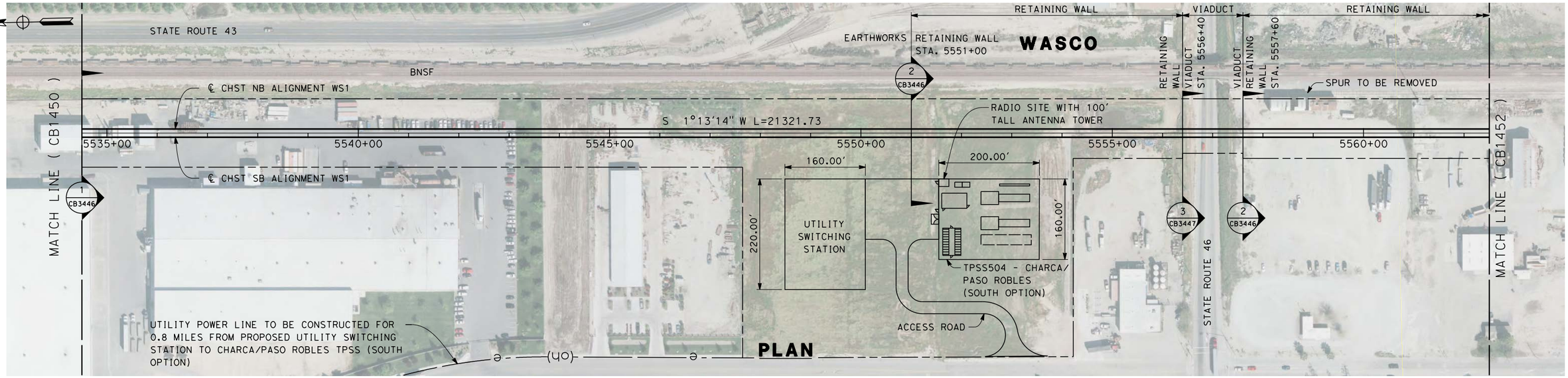
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

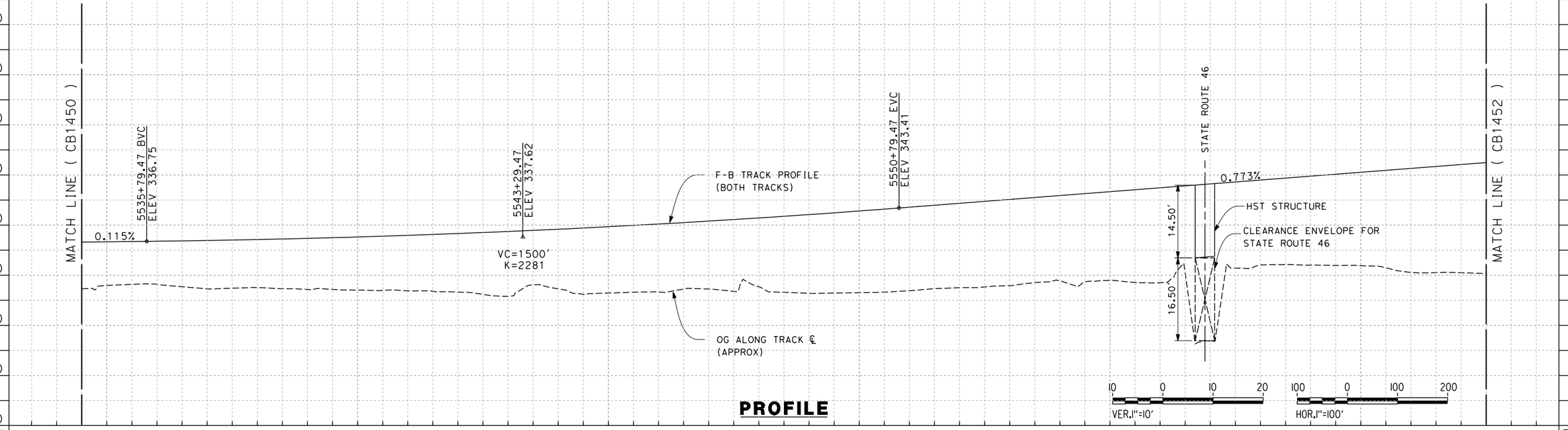
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5478+50 TO 5534+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1450
SCALE AS SHOWN
SHEET NO. 3 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

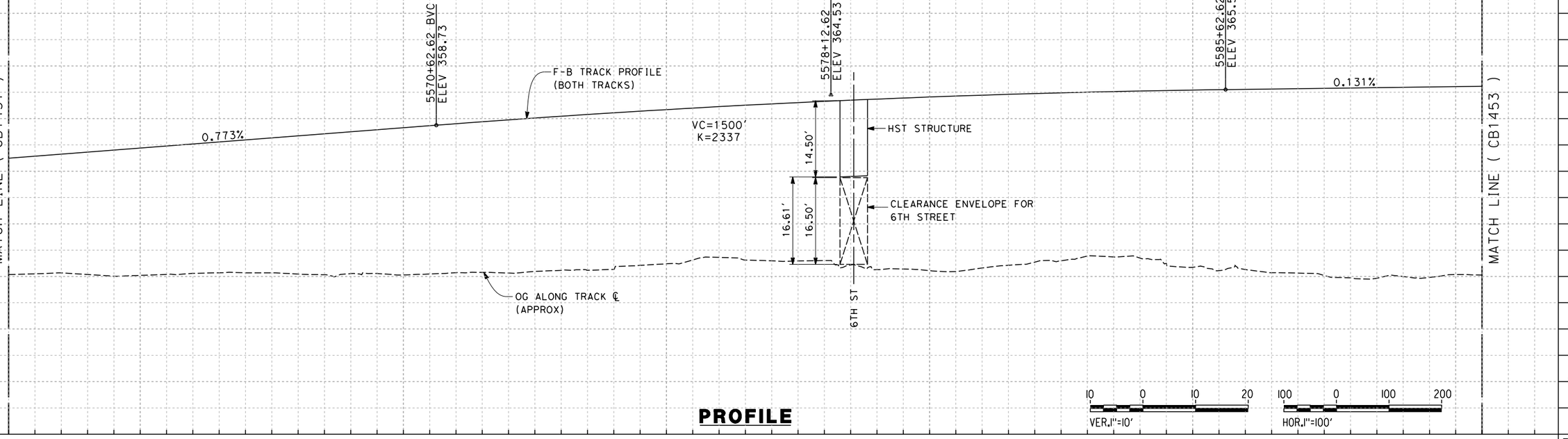
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5534+50 TO 5562+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1451
SCALE AS SHOWN
SHEET NO. 4 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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Nadine.Hutton




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stephen.litsas

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S.LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

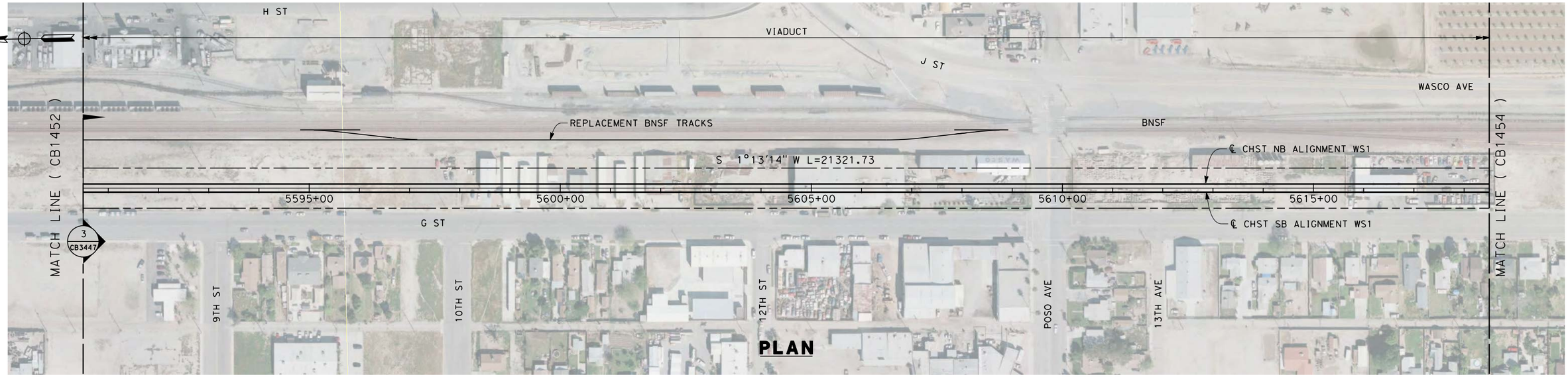
**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

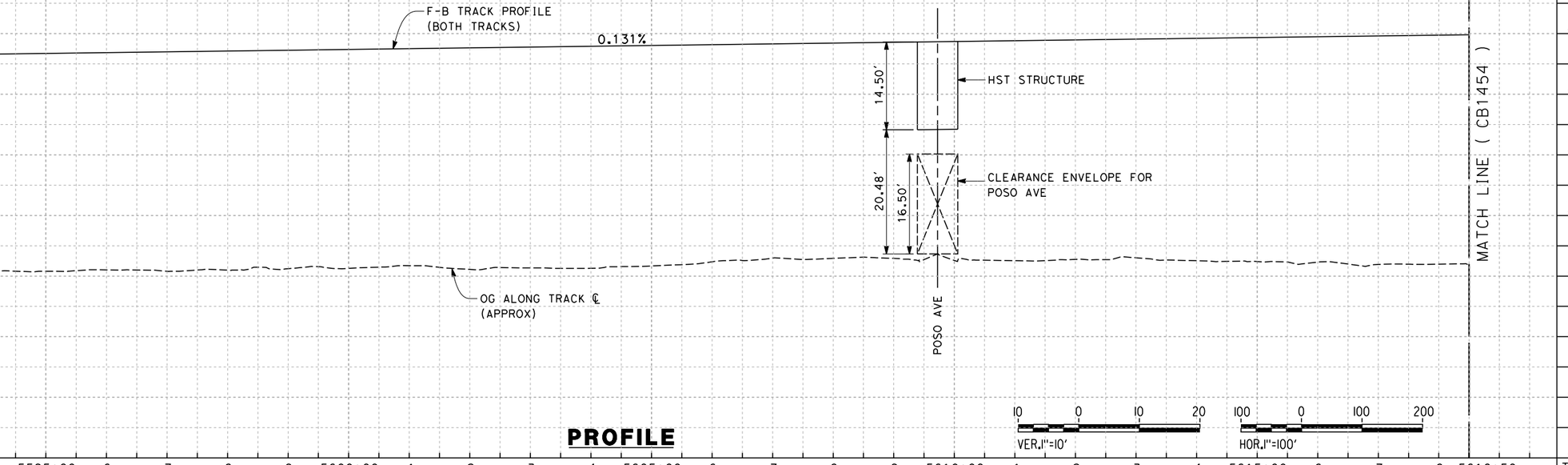
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5562+50 TO 5590+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1452
SCALE AS SHOWN
SHEET NO. 5 OF 35




**PLAN**




**PROFILE**

| STATION | 5590+501 | 2 | 3 | 4 | 5595+00 | 6 | 7 | 8 | 9 | 5600+00 | 1 | 2 | 3 | 4 | 5605+00 | 6 | 7 | 8 | 9 | 5610+00 | 1 | 2 | 3 | 4 | 5615+00 | 6 | 7 | 8 | 5618+50 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

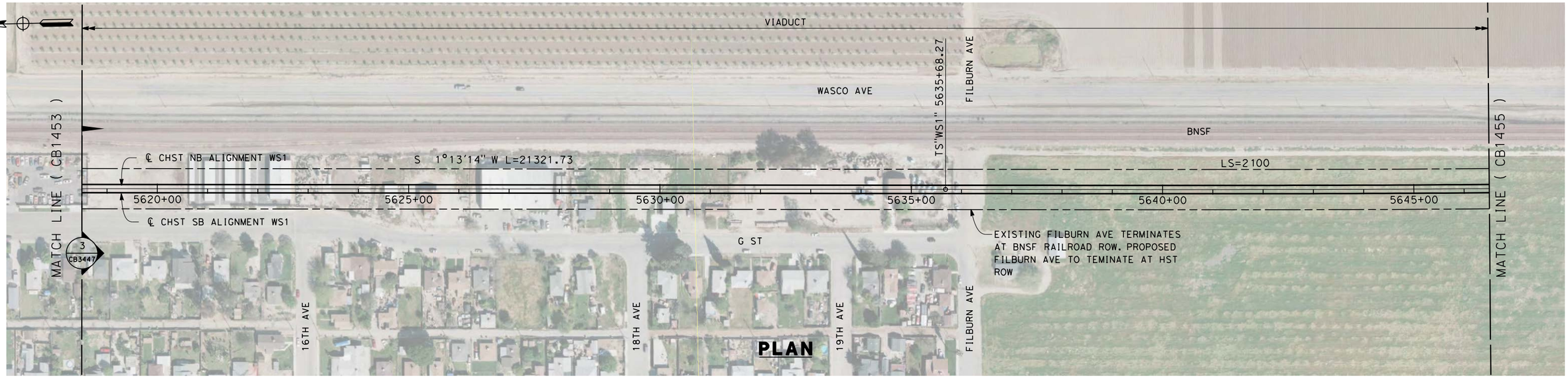
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

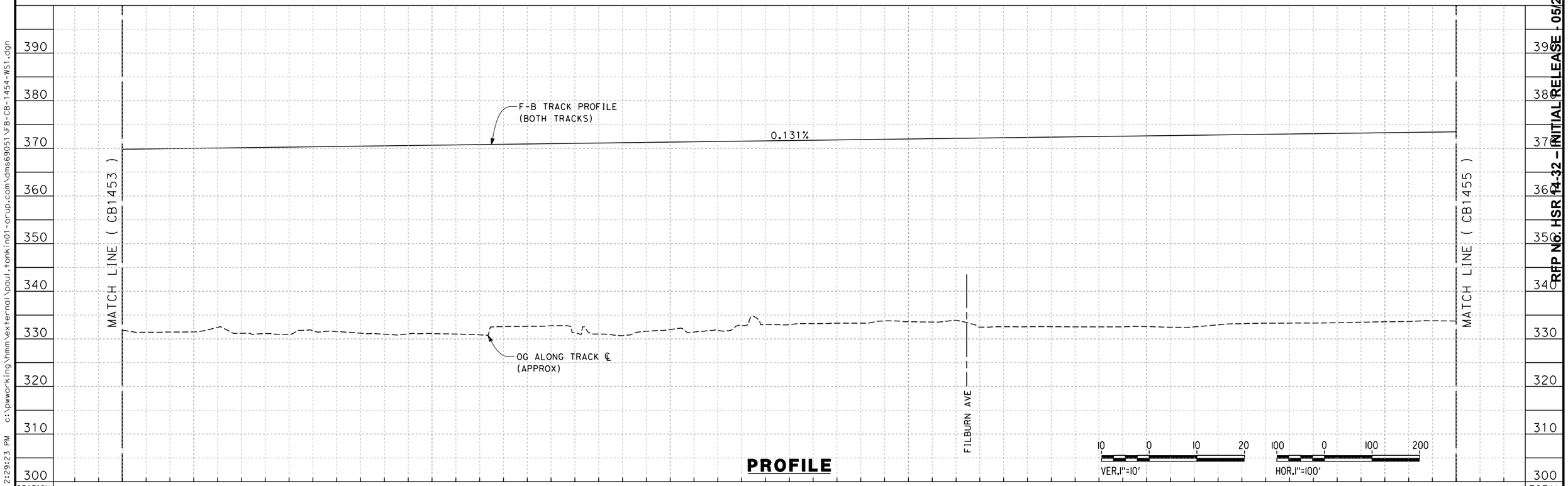
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5590+50 TO 5618+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1453
SCALE AS SHOWN
SHEET NO. 6 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

stephen.litsas 12/12/2013 2:28:27 PM c:\pwworking\hmm\external\paul.tonkin01-arup.com\dms69051\FB-CB-1453-WS1.dgn




PROFILE

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

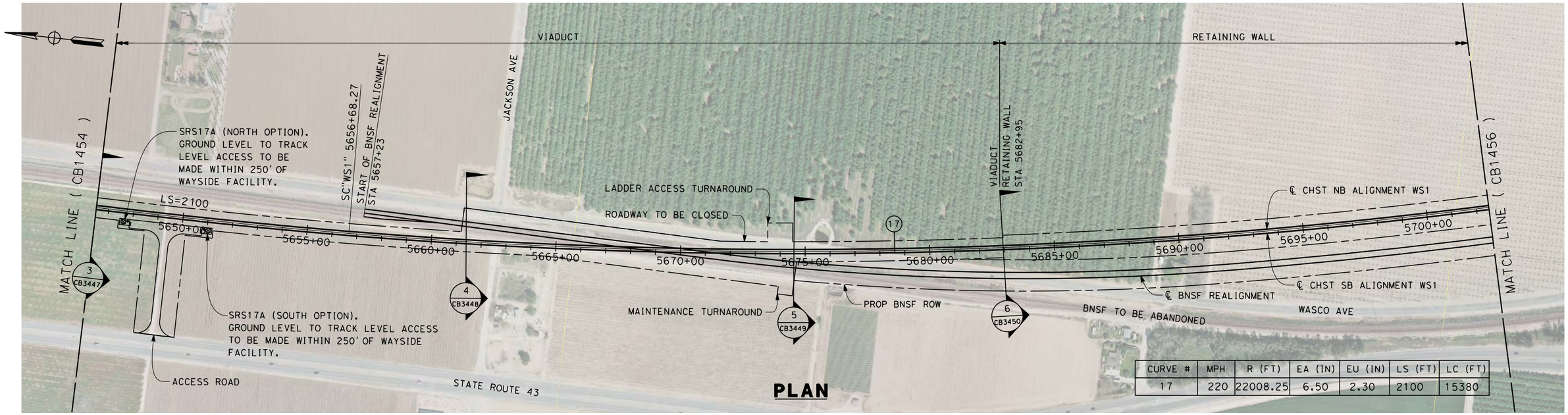
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5618+50 TO 5646+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1454
SCALE AS SHOWN
SHEET NO. 7 OF 35

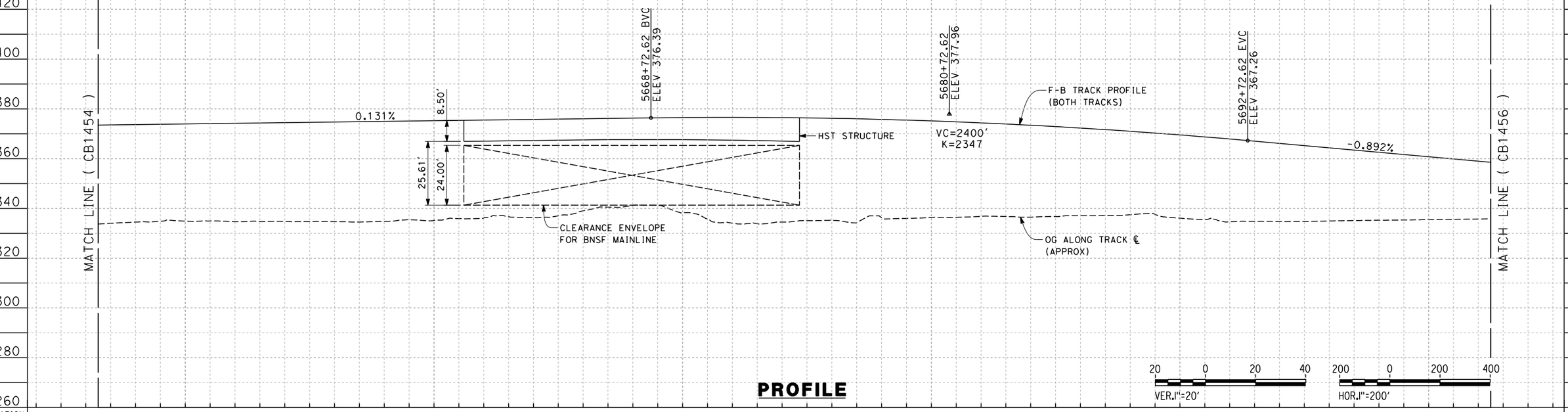
RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

stephen.litsas 12/12/2013 2:29:23 PM c:\pwworking\hmm\external\paul.tonkin01-arup.com\dms69051\FB-CB-1454-WS1.dgn




**PLAN**

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 17 | 220 | 22008.25 | 6.50 | 2.30 | 2100 | 15380 |




**PROFILE**

| STATION | 5646+50 | 5650+00 | 5660+00 | 5670+00 | 5680+00 | 5690+00 | 5700+00 | 5702+50 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | |
| CY Emb | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

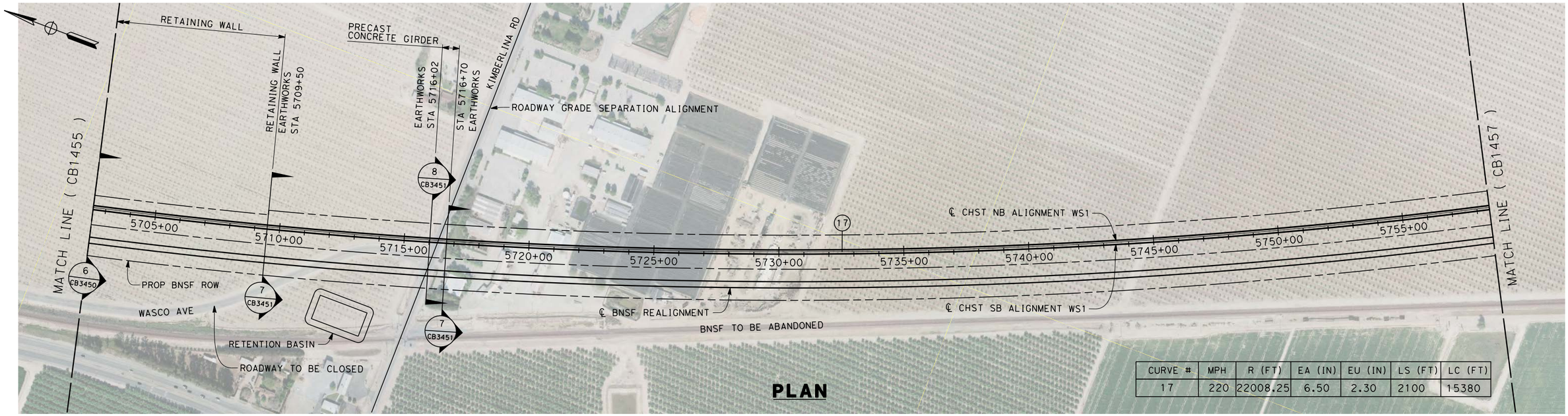
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

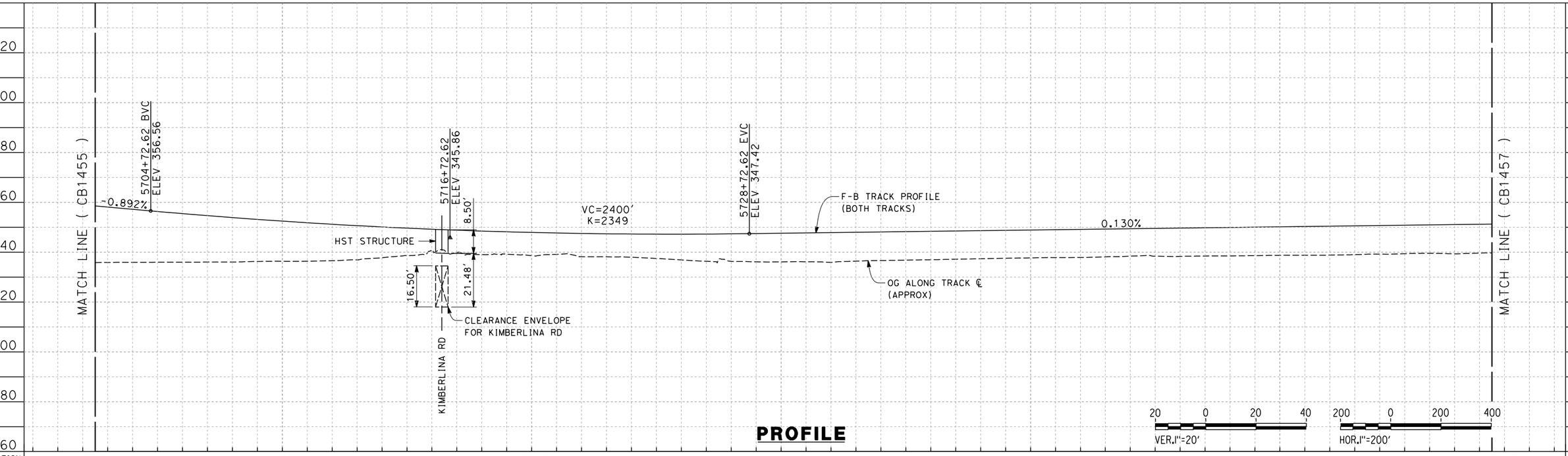
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5646+50 TO 5702+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1455
SCALE AS SHOWN
SHEET NO. 8 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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paul.tonkin




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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12/26/2013 11:32:45 PM
david.hunt

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

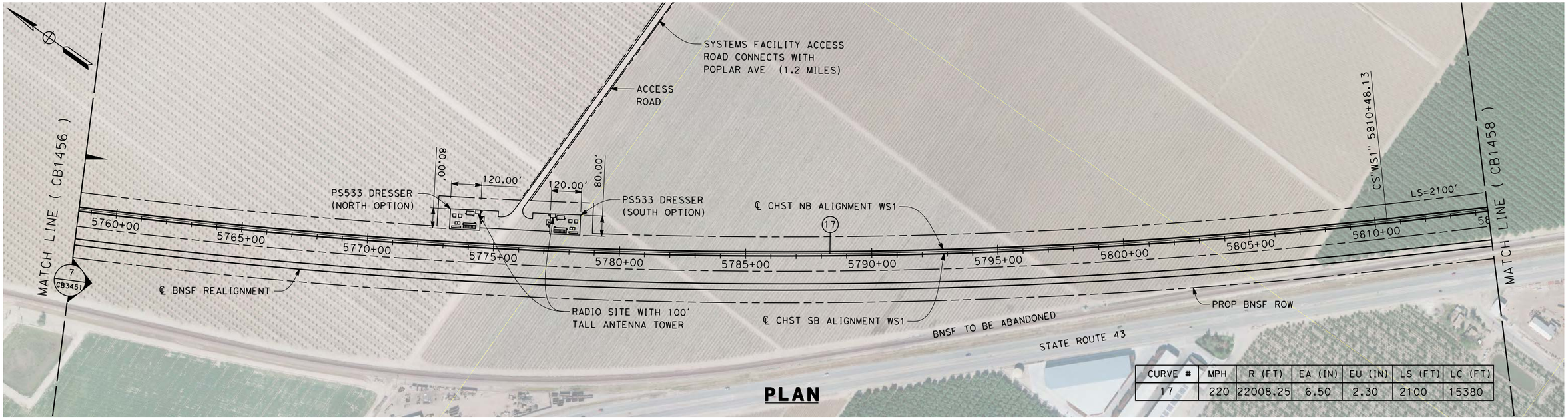
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD

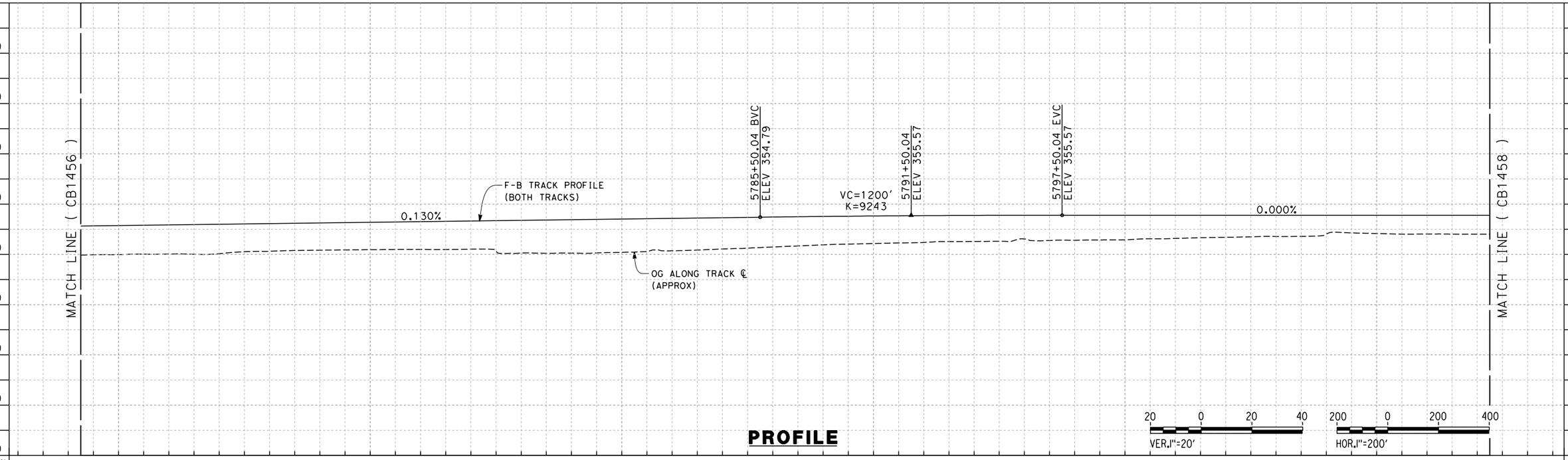
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5702+50 TO 5758+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1456
SCALE AS SHOWN
SHEET NO. 9 OF 35




| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 17 | 220 | 22008.25 | 6.50 | 2.30 | 2100 | 15380 |

**PLAN**




**PROFILE**

| STATION | 5758+50 | 5760+00 | 5770+00 | 5780+00 | 5790+00 | 5800+00 | 5810+00 | 5814+50 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | |
| CY Emb | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

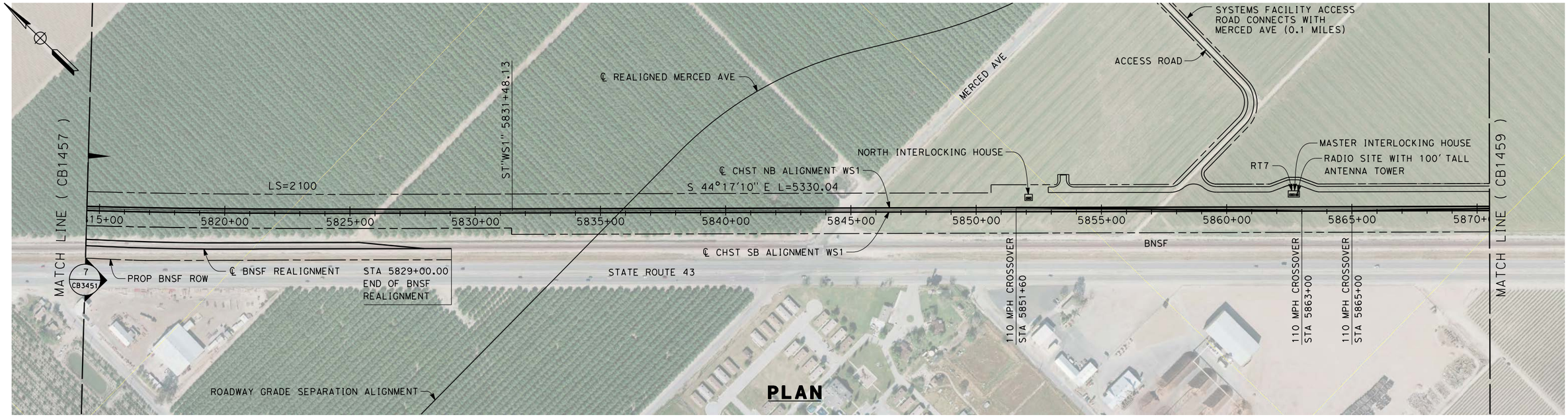
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5758+50 TO 5814+50
PLAN AND PROFILE

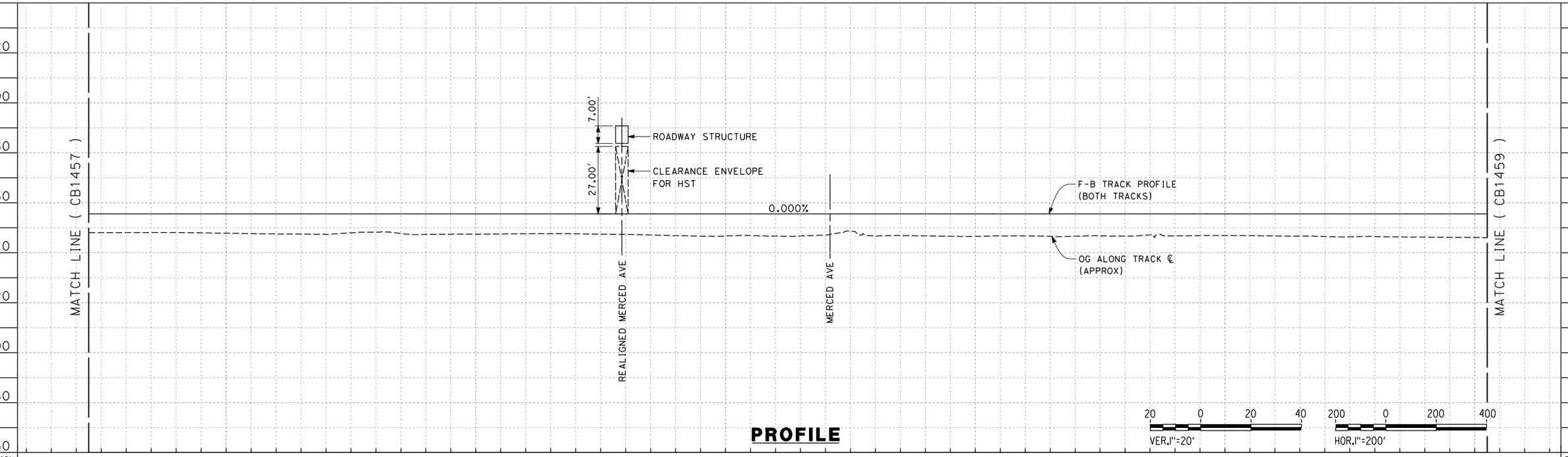
CONTRACT NO. HSR 06-0003
DRAWING NO. CB1457
SCALE AS SHOWN
SHEET NO. 10 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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paul.tonkin




**PLAN**




**PROFILE**

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| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 05/23/14

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

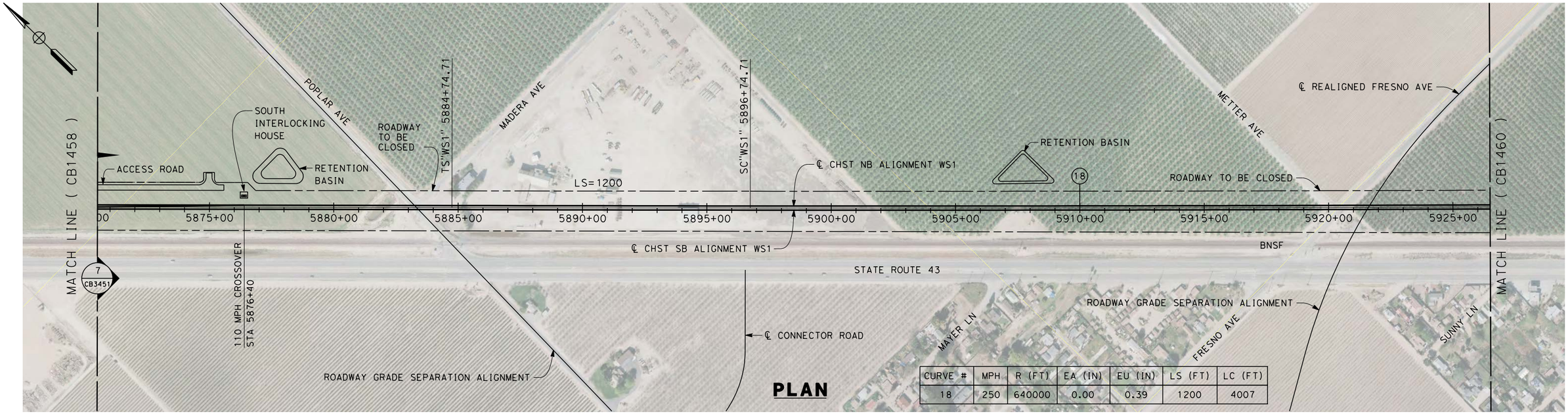
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD

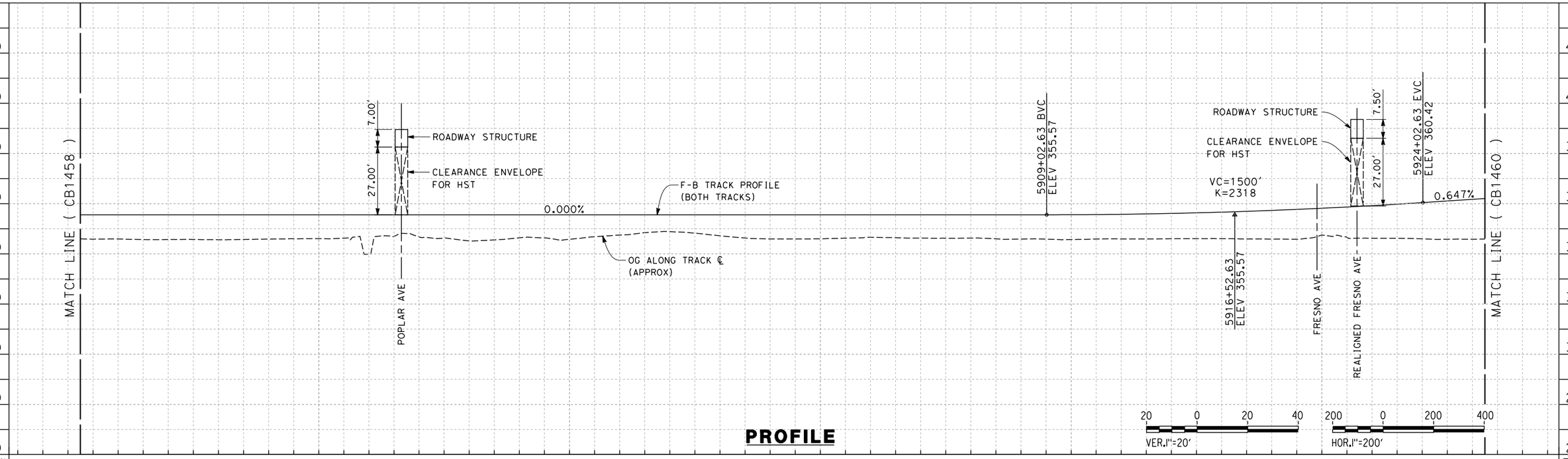
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5814+50 TO 5870+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1458
SCALE AS SHOWN
SHEET NO. 11 OF 35




**PLAN**

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 18 | 250 | 640000 | 0.00 | 0.39 | 1200 | 4007 |




**PROFILE**

| STATION | 5870+50 | 5880+00 | 5890+00 | 5900+00 | 5910+00 | 5920+00 | 5926+50 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | |
| CY Emb | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 05/23/14

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
California High-Speed Train

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

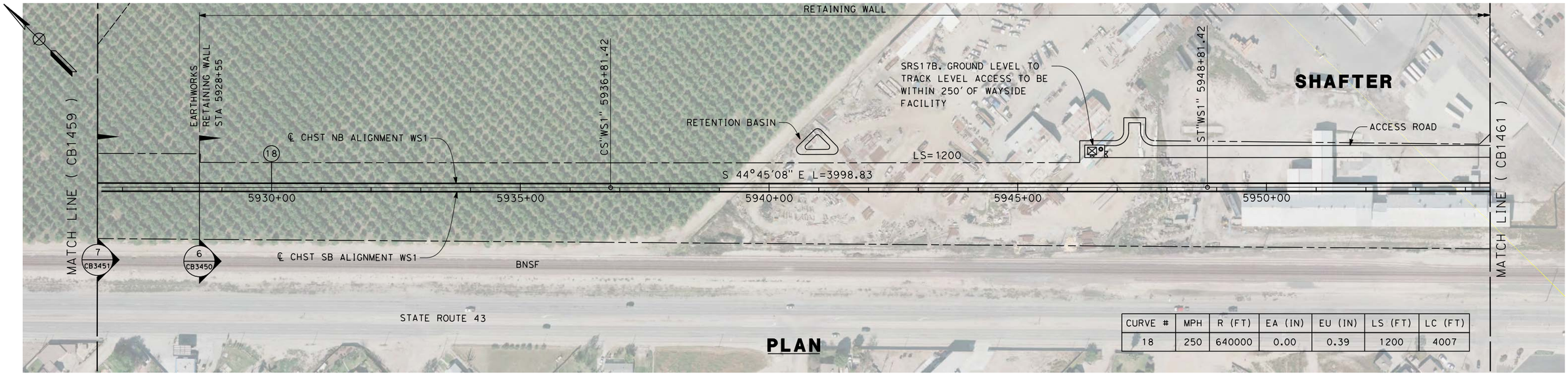
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD

THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5870+50 TO 5926+50
PLAN AND PROFILE

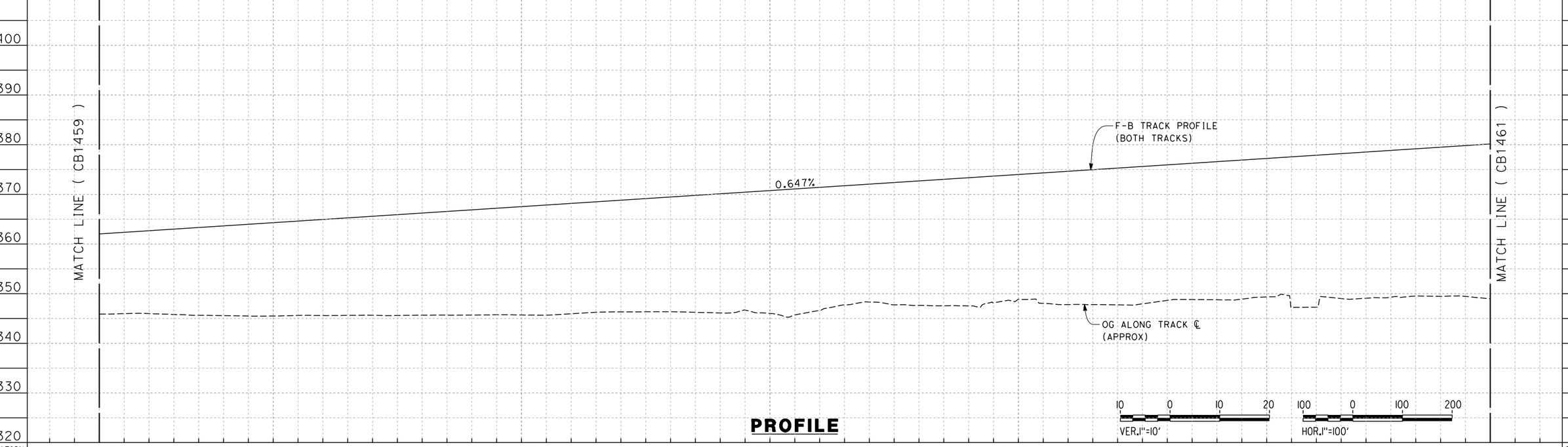
CONTRACT NO. HSR 06-0003
DRAWING NO. CB1459
SCALE AS SHOWN
SHEET NO. 12 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 18 | 250 | 640000 | 0.00 | 0.39 | 1200 | 4007 |




| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 05/23/14

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

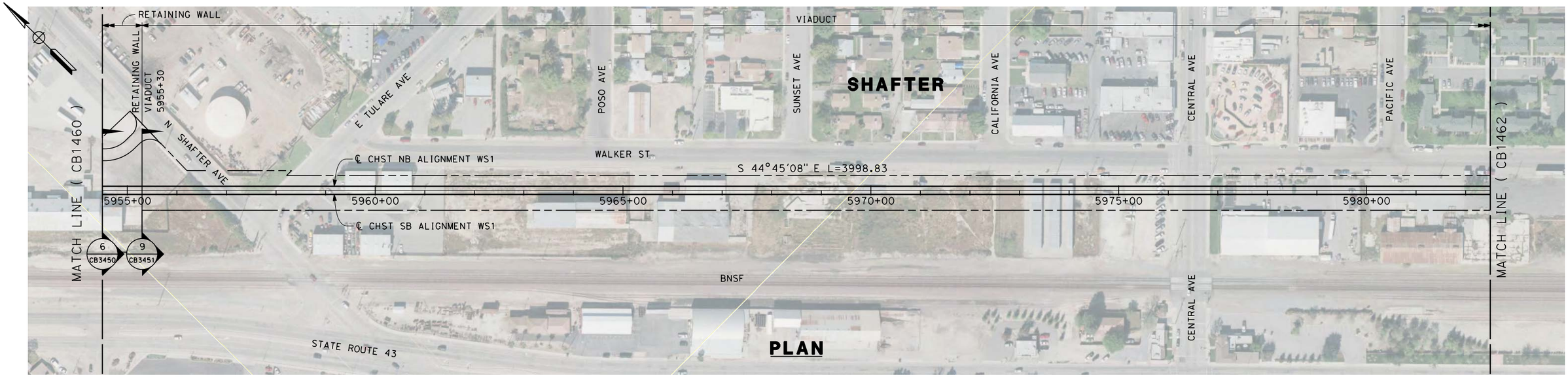
# CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD

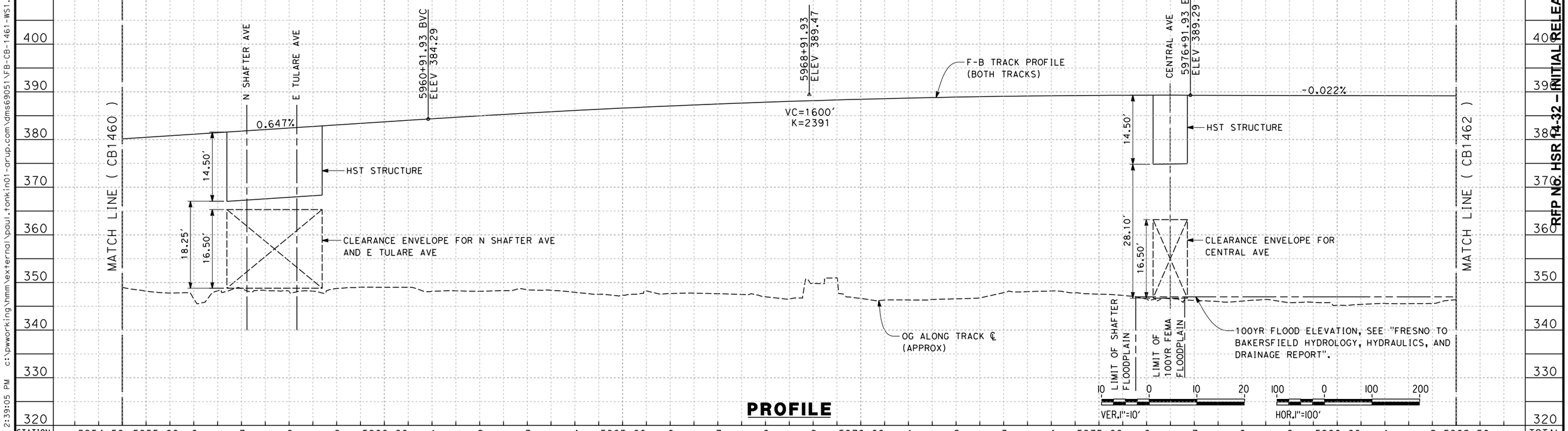
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5926+50 TP 5954+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1460
SCALE AS SHOWN
SHEET NO. 13 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

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DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

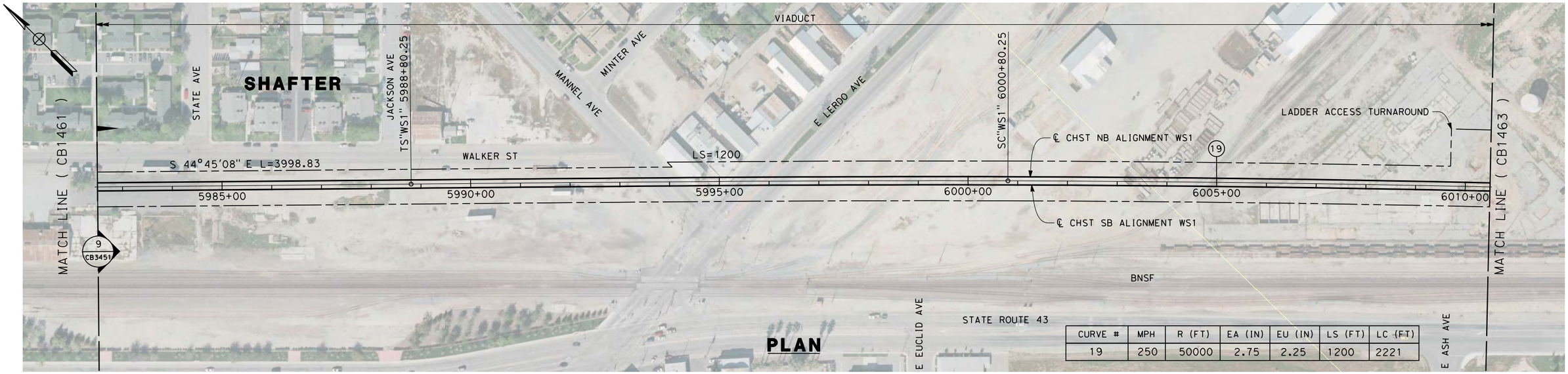
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

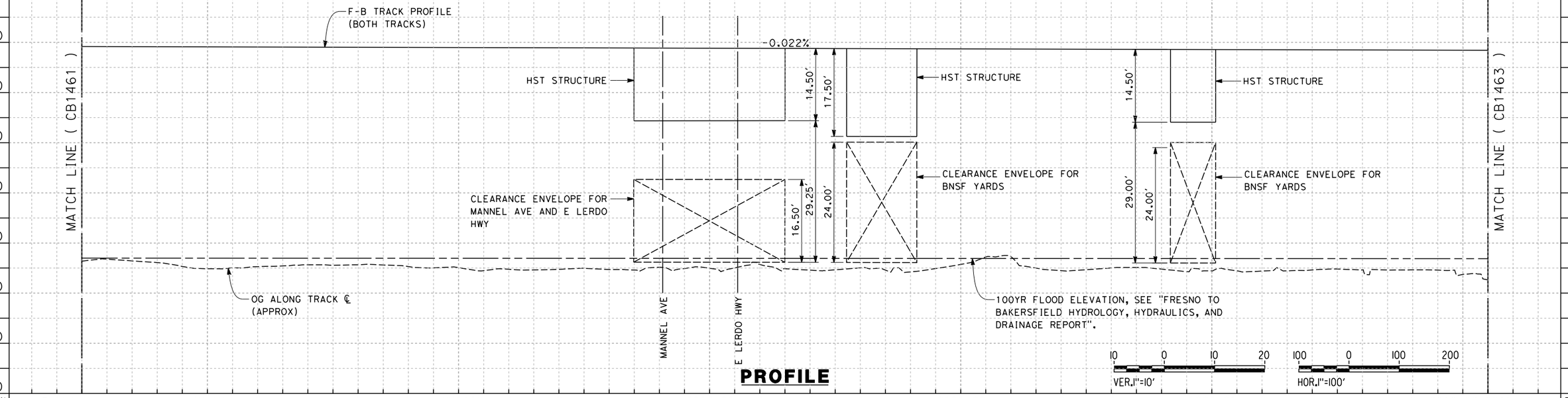
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5954+50 TP 5982+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1461
SCALE AS SHOWN
SHEET NO. 14 OF 35

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stephen.litsas




| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 19 | 250 | 50000 | 2.75 | 2.25 | 1200 | 2221 |




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

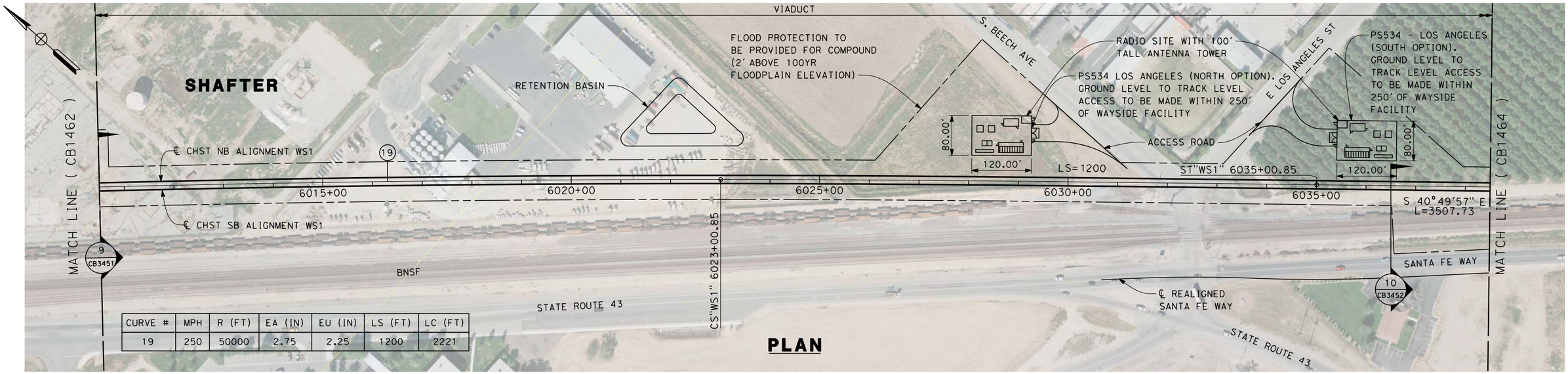
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5982+50 TO 6010+50
PLAN AND PROFILE

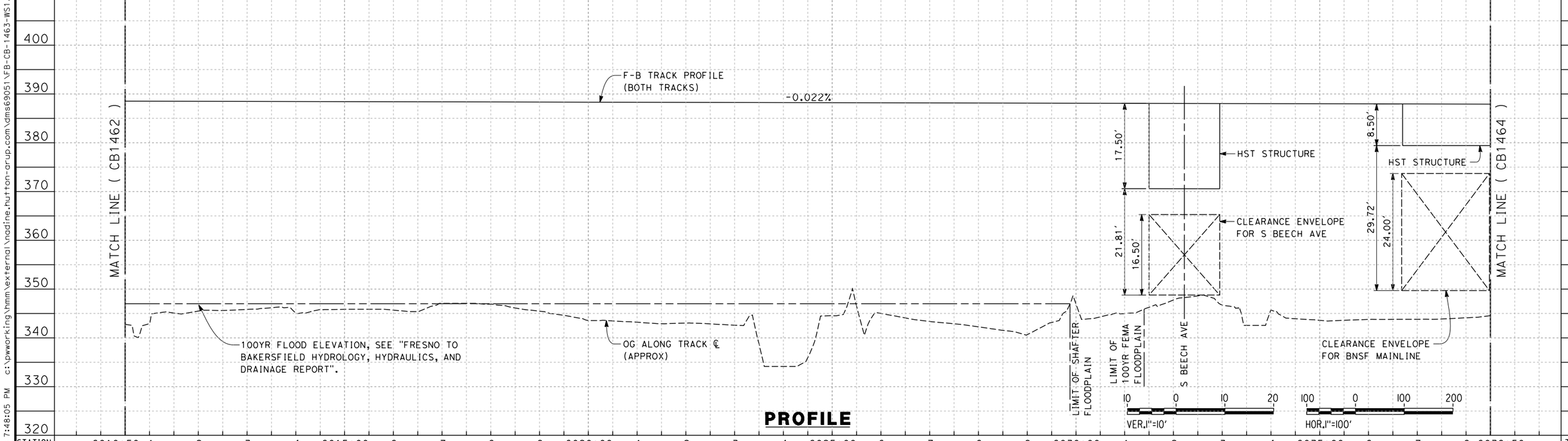
CONTRACT NO. HSR 06-0003
DRAWING NO. CB1462
SCALE AS SHOWN
SHEET NO. 15 OF 35

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stephen.litsas




| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 19 | 250 | 50000 | 2.75 | 2.25 | 1200 | 2221 |

**PLAN**




**PROFILE**

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

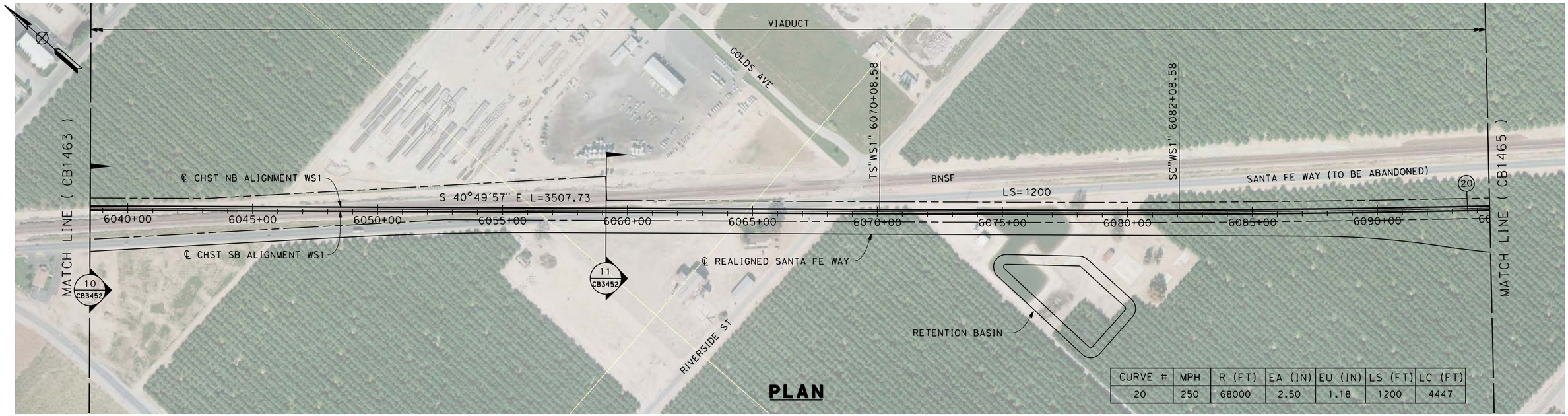
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

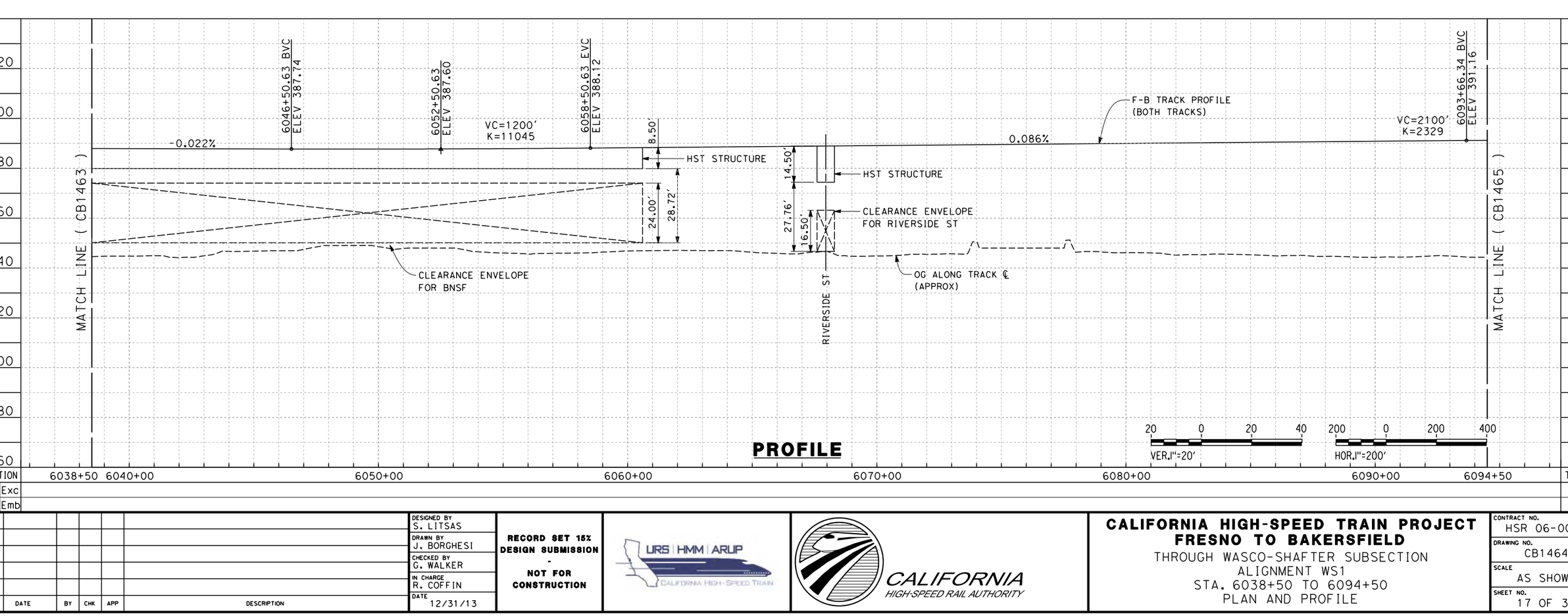
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 6010+50 TO 6038+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1463
SCALE AS SHOWN
SHEET NO. 16 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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Nadine.Hutton




| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

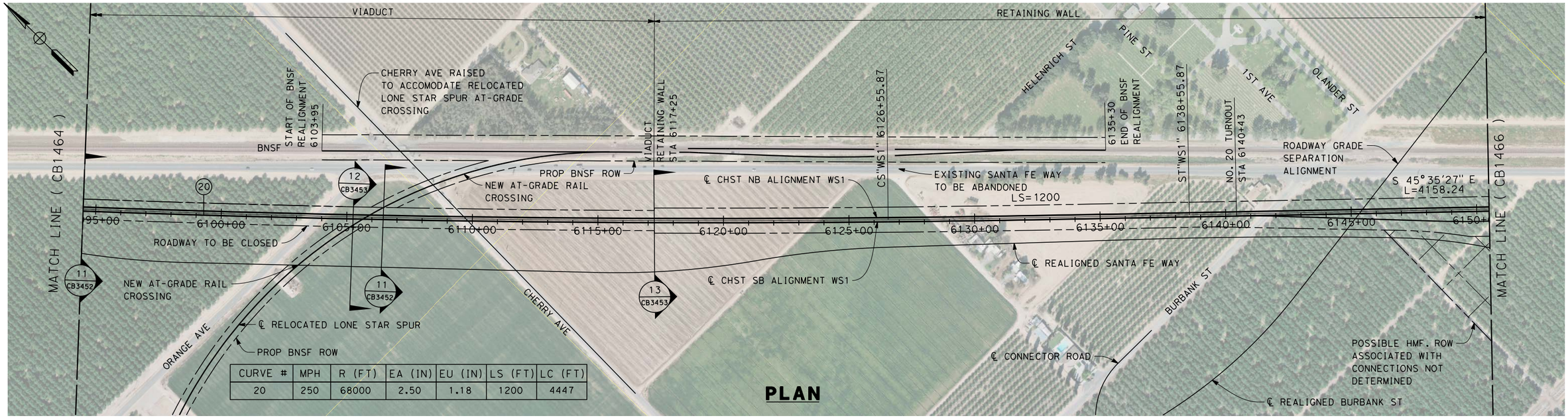
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 6038+50 TO 6094+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. CB1464
SCALE AS SHOWN
SHEET NO. 17 OF 35

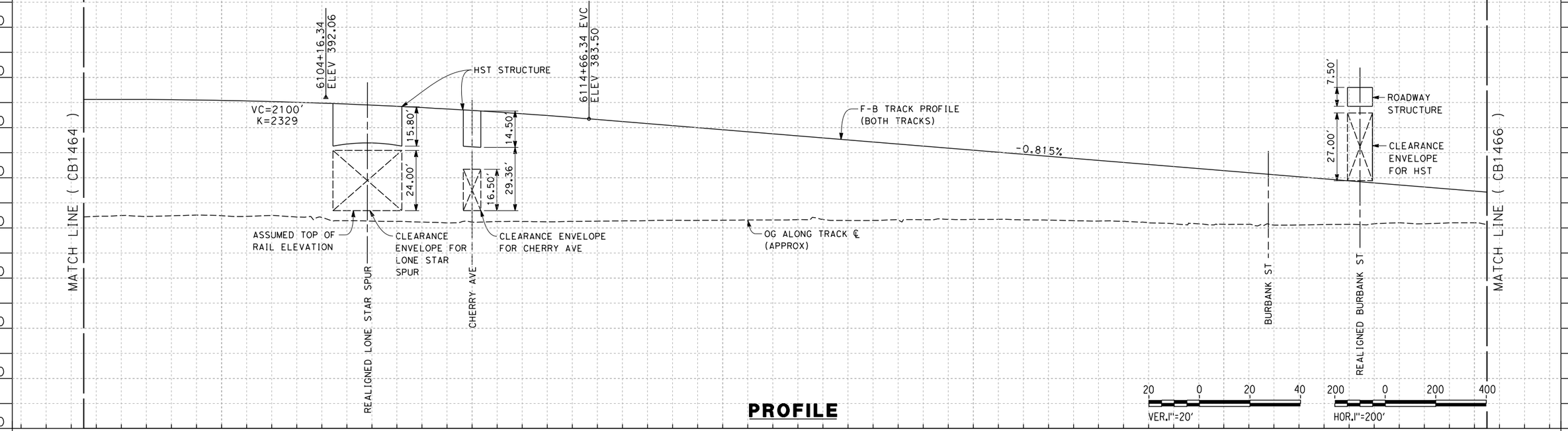
RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 20 | 250 | 68000 | 2.50 | 1.18 | 1200 | 4447 |

**PLAN**




**PROFILE**

| STATION | 6094+50 | 6100+00 | 6110+00 | 6120+00 | 6130+00 | 6140+00 | 6150+50 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | |
| CY Emb | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY P. TONKIN
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 6094+50 TO 6150+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-D1151
SCALE AS SHOWN
SHEET NO. 18 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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paul.tonkin

| CURVE # | MPH | R (FT) | EA (IN) | EU (IN) | LS (FT) | LC (FT) |
|---|---|---|---|---|---|---|
| 21 | 250 | 105000 | 1.25 | 1.13 | 1200 | 1216 |

℄ REALIGNED BURBANK ST
RETAINING WALL
RETAINING WALL EARTHWORKS 6151+00
MATCH LINE ( CB1465 )
℄ MAINTENANCE OF INFRASTRUCTURE FACILITY SIDING TRACK
EXISTING LONE STAR SPUR TO BE RELOCATED (SEE SHEET CB1465)
30' MOIF TRACK CENTERLINE SPACINGS EXCEPT WHERE SHOWN OTHERWISE. LENGTHS MEET OR EXCEEED REQUIREMENTS IN DIRECTIVE DRAWING 5.1H
TS"WS1" 6180+14.11
SC"WS1" 6192+14.11
CS"WS1" 6204+29.93
EXISTING SANTA FE WAY TO BE ABANDONED
NO. 11 TURNOUT (TYP)
S 45°35'27" E L=4158.24
SIDING CP TO CP = 3784'
MOI 1 CP TO CP = 3125'
LS=1200
21
BNSF
℄ CHST NB ALIGNMENT WS1
SANTA FE WAY
LS=1200
6155+00 6160+00 6165+00 6170+00 6175+00 6180+00 6185+00 6190+00 6195+00 6200+00 6205+00
MOI 2 CP TO CP = 2466'
MOI 3 CP TO CP = 1808'
MOI 4 CP TO CP = 1149'
MOI 5 CP TO CP = 930'
MOI 6 CP TO CP = 570'
NO. 11 TURNOUT (TYP)
LENGTH OF LEAD TRACK = 2566'
℄ CHST SB ALIGNMENT WS1
40.00'
14 CB3454
15 CB3455
SRS18 (NORTH OPTION)
LENGTH OF LEAD TRACK = 1371'
SRS18 (SOUTH OPTION)
BALLAST STORAGE AREA
ACCESS ROAD
POWER SUBSTATION
MOIF ~ 38 ACRES
EQUIPMENT PARKING
WAREHOUSE
PARKING
ACCESS ROAD CONNECTS TO REALIGNED SANTA FE WAY
MENDOTA ST
POSSIBLE HMF, ROW ASSOCIATED WITH CONNNECTIONS NOT DETERMINED.
℄ REALIGNED SANTA FE WAY
MATCH LINE ( CB1467 )

**PLAN**

420 400 380 360 340 320 300 280 260

MATCH LINE ( CB1465 )
6150+69.06 BVC ELEV 354.13
-0.815%
VC=1900' K=2285
LONE STAR SPUR (TO BE RELOCATED)
6160+19.06 ELEV 346.38
6169+69.06 EVC ELEV 346.54
F-B TRACK PROFILE (BOTH TRACKS)
0.016%
OG ALONG TRACK ℄ (APPROX)
LIMITS OF WEIDENBACH ST FLOODPLAIN
LIMIT OF 100YR FEMA FLOODPLAIN
100 YEAR FLOOD ELEVATION. SEE "FRESNO TO BAKERSFIELD HYDROLOGY, HYDRAULICS, AND DRAINAGE REPORT".
MATCH LINE ( CB1467 )

**PROFILE**

20 0 20 40 VER.1"=20'
200 0 200 400 HOR.1"=200'

| STATION | 6150+50 | 6160+00 | 6170+00 | 6180+00 | 6190+00 | 6200+00 | 6206+50 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | |
| CY Emb | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY P. TONKIN
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

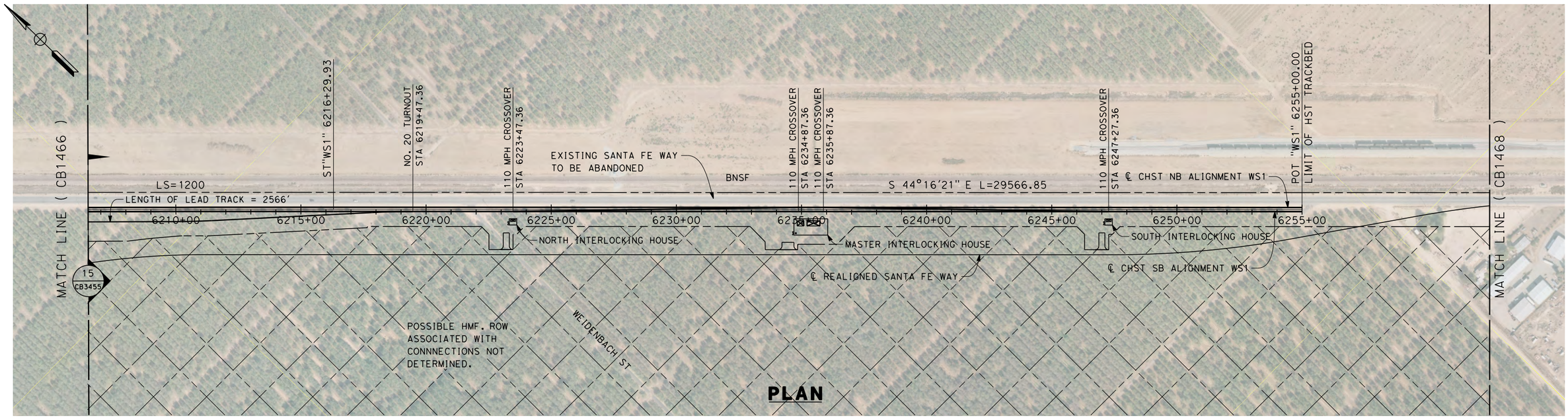
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 6150+50 TO 6206+50
PLAN AND PROFILE

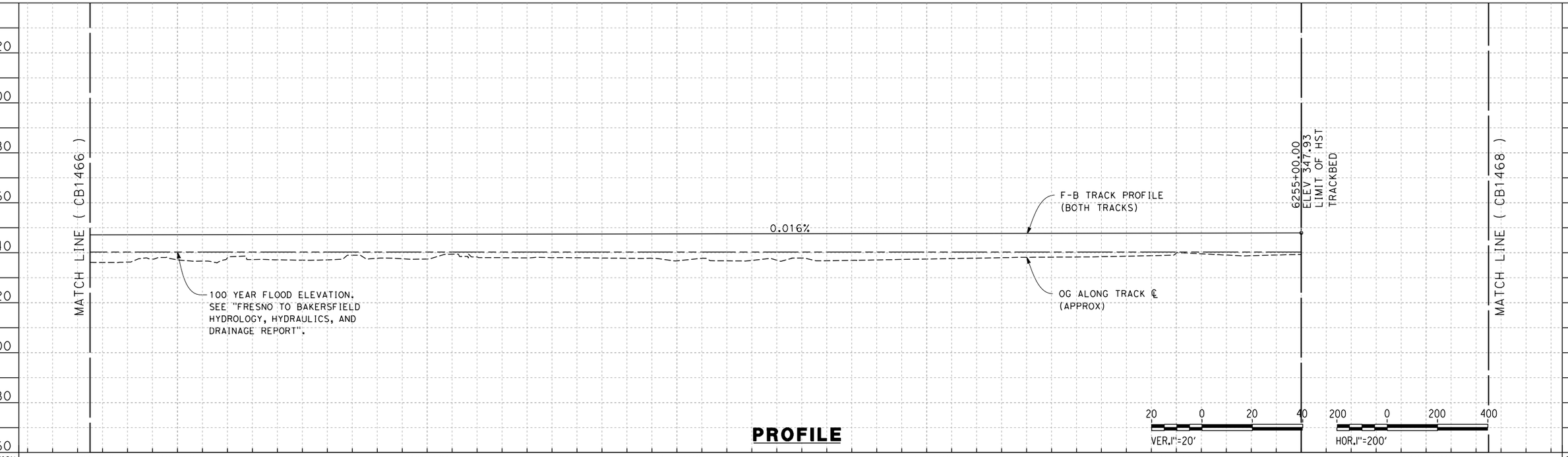
CONTRACT NO. HSR 06-0003
DRAWING NO. TT-D1152
SCALE AS SHOWN
SHEET NO. 19 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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paul.tonkin




## PLAN




## PROFILE

| STATION | 6206+50 | 6210+00 | 6220+00 | 6230+00 | 6240+00 | 6250+00 | 6260+00 | 6262+50 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | |
| CY Emb | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

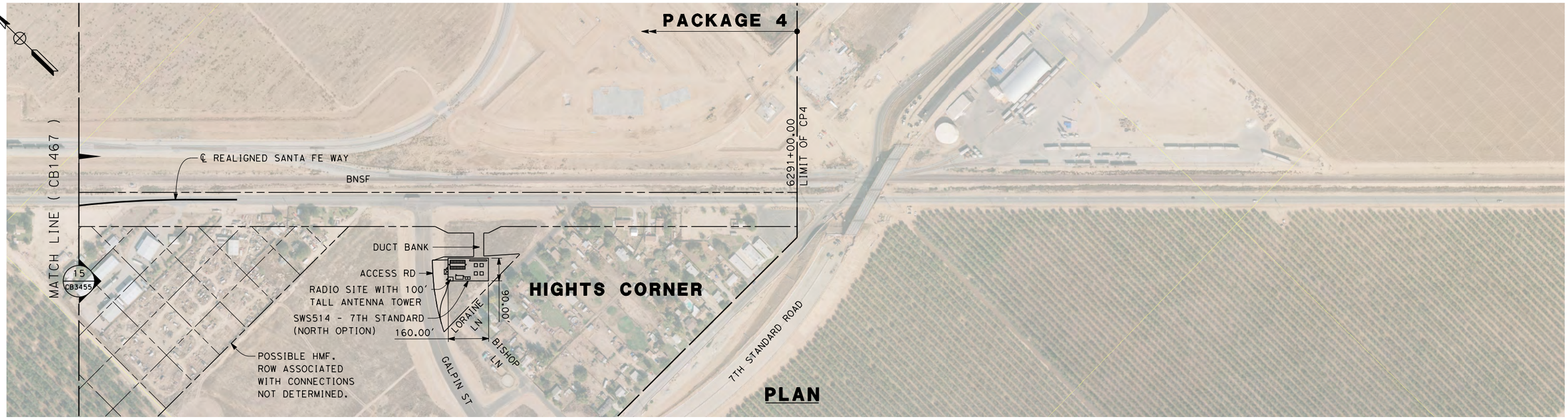
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 6206+50 TO 6262+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-D1153
SCALE AS SHOWN
SHEET NO. 20 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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**PLAN**

MATCH LINE ( CB1467 )

420 400 380 360 340 320 300 280 260

**PROFILE**

20 0 20 40 — VER.1"=20'

200 0 200 400 — HOR.1"=200'

| STATION | 6262+50 | 6270+00 | 6275+00 | TOTAL |
|---|---|---|---|---|
| CY Exc | | | | |
| CY Emb | | | | |

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

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CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

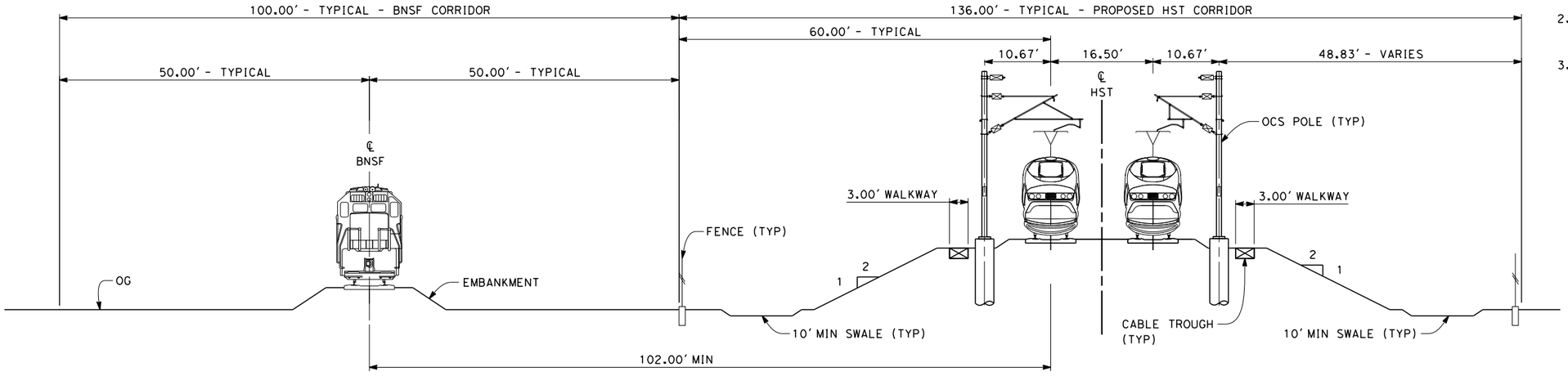
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 6262+50 TO 6318+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-D1154
SCALE AS SHOWN
SHEET NO. 21 OF 35

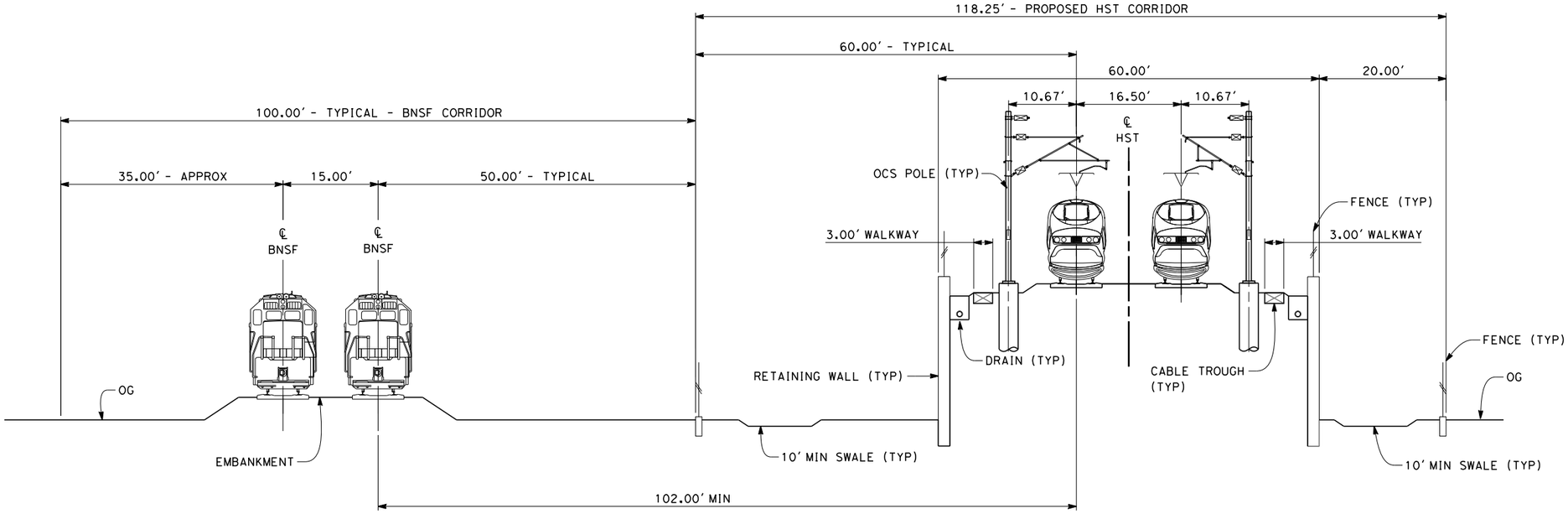
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paul.tonkin




NOTE:
"TWIN-TRACK BNSF EXISTS BETWEEN STA: 5506+00 TO 5551+00"

## SECTION 1

TWIN TRACK - ADJACENT TO BNSF
STA 5422+50 THROUGH STA 5551+00




## SECTION 2

TWIN TRACK ON RETAINED EMBANKMENT, ADJACENT TO BNSF
STA 5551+00 THROUGH STA 5556+40
STA 5557+60 THROUGH STA 5564+80

10 0 10 20
1"=10'

NOTES:

1. TRACKFORM SHOWN IS INDICATIVE.
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS.
3. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.

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|---|---|---|---|---|---|

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IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

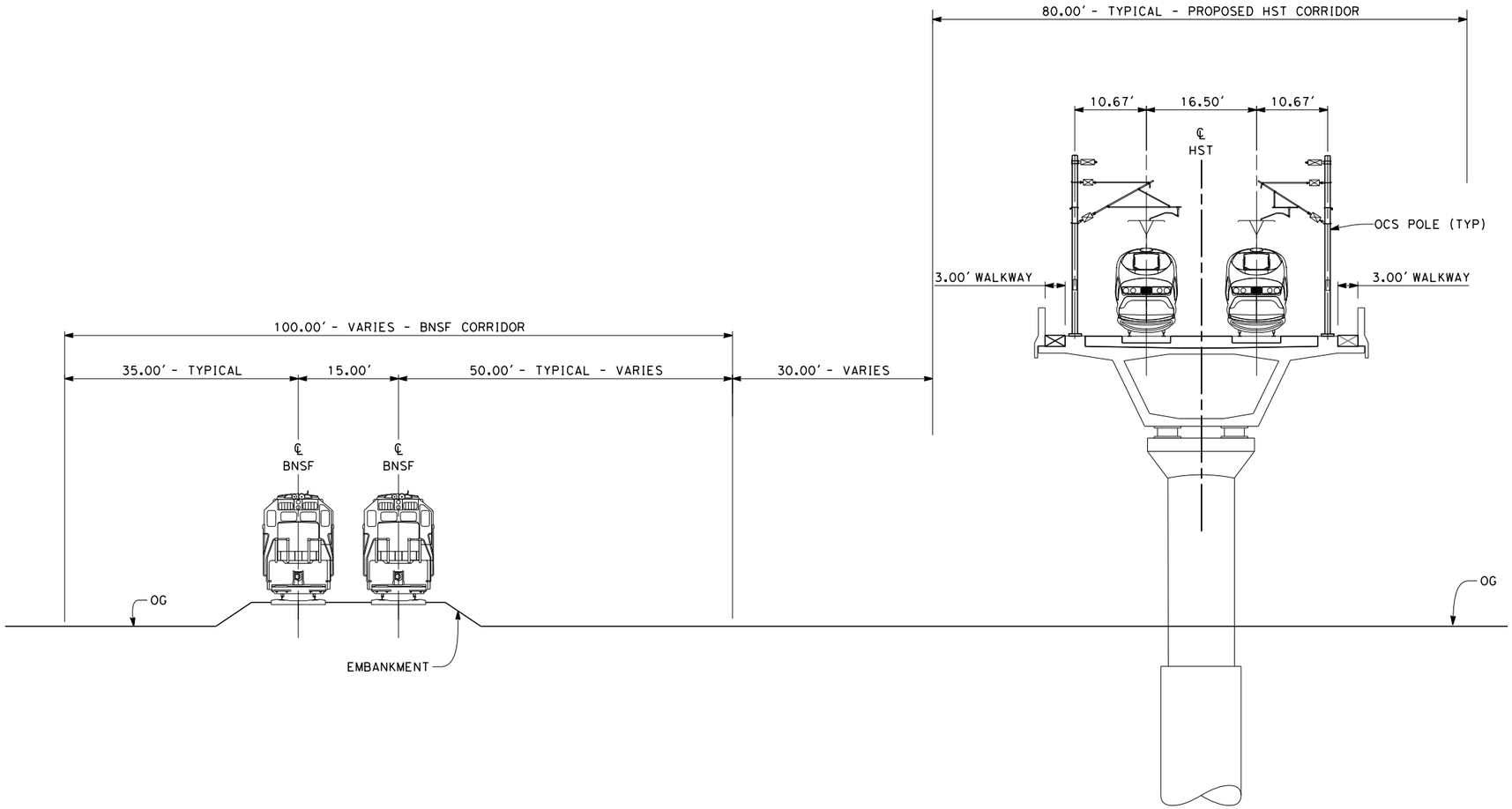
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. CB3446
SCALE AS SHOWN
SHEET NO. 26 OF 35

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NOTES:

1. TRACKFORM SHOWN IS INDICATIVE.
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS.
3. FOR EXTENTS OF BNSF REALIGNMENTS AND LOCATION OF BNSF SIDING TRACKS, SEE PLAN SHEETS.
4. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.




## SECTION 3

TWIN TRACK - AERIAL VIADUCT ADJACENT TO BNSF
STA 5556+40 THROUGH STA 5557+60
STA 5564+80 THROUGH STA 5661+30

10 0 10 20
1"=10'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

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CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

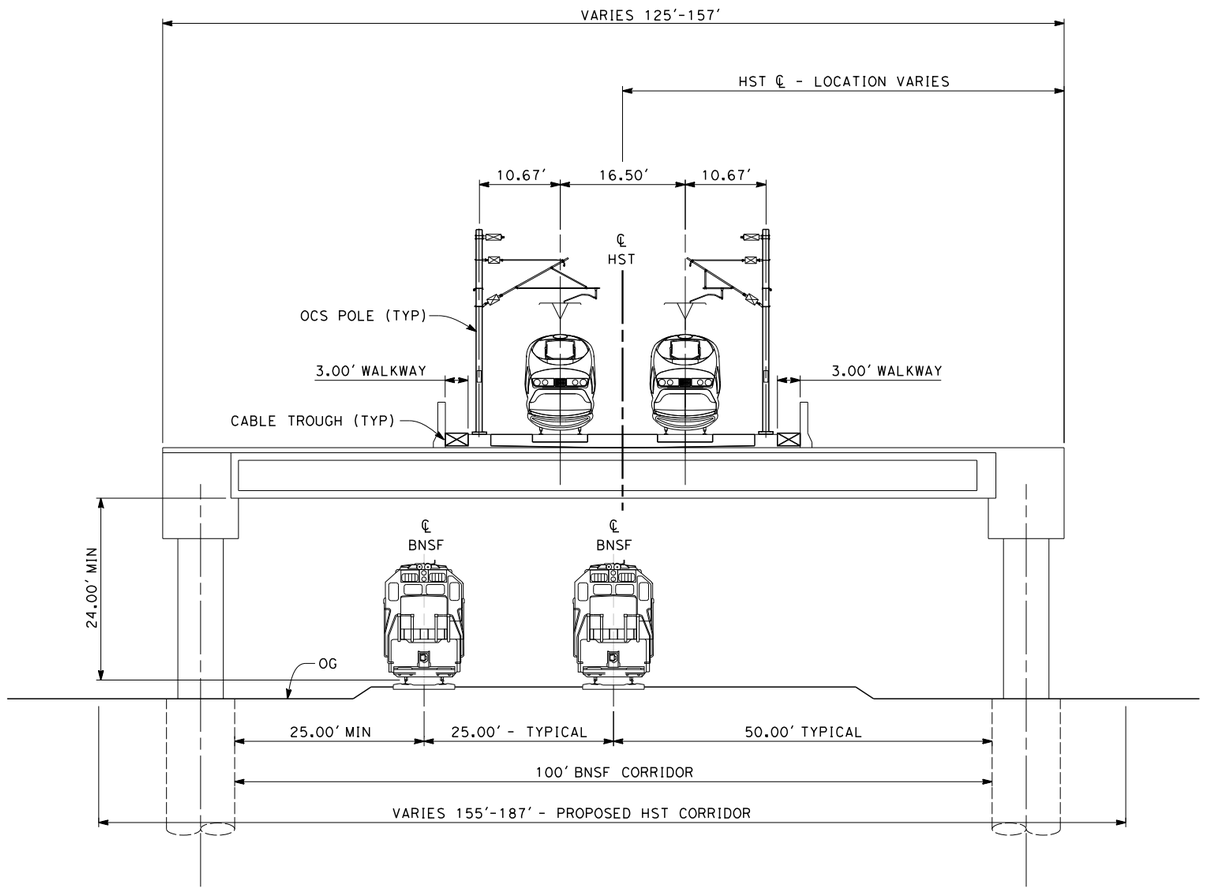
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. CB3447
SCALE AS SHOWN
SHEET NO. 27 OF 35

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NOTES:

1. TRACKFORM SHOWN IS INDICATIVE.
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS.
3. FOR EXTENTS OF BNSF REALIGNMENTS, SEE PLAN SHEETS.
4. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.




## SECTION 4

TWIN TRACK - ELEVATED SLAB OVER BNSF
STA 5661+30 THROUGH STA 5674+55

10 0 10 20
1"=10'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

$USER$ $TIME$ $DATE$ $FILE$

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

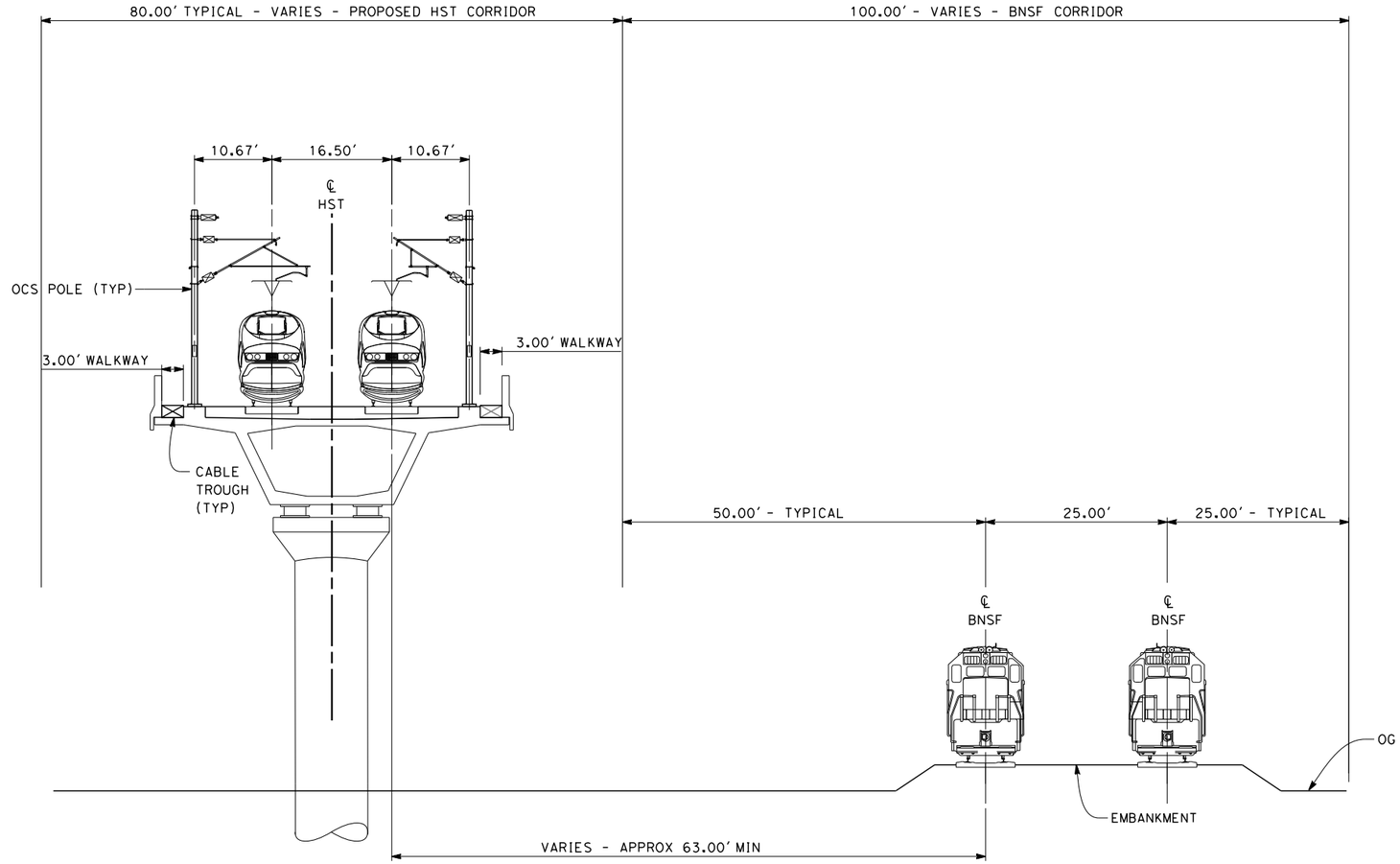
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. CB3448
SCALE AS SHOWN
SHEET NO. 28 OF 35

NOTES:

1. TRACKFORM SHOWN IS INDICATIVE.
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS.
3. FOR EXTENTS OF BNSF REALIGNMENTS, SEE PLAN SHEETS.
4. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.




## SECTION 5

TWIN TRACK - AERIAL VIADUCT ADJACENT TO BNSF
STA 5674+55 THROUGH STA 5682+95

10 0 10 20
1"=10'

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S, LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
TYPICAL SECTIONS

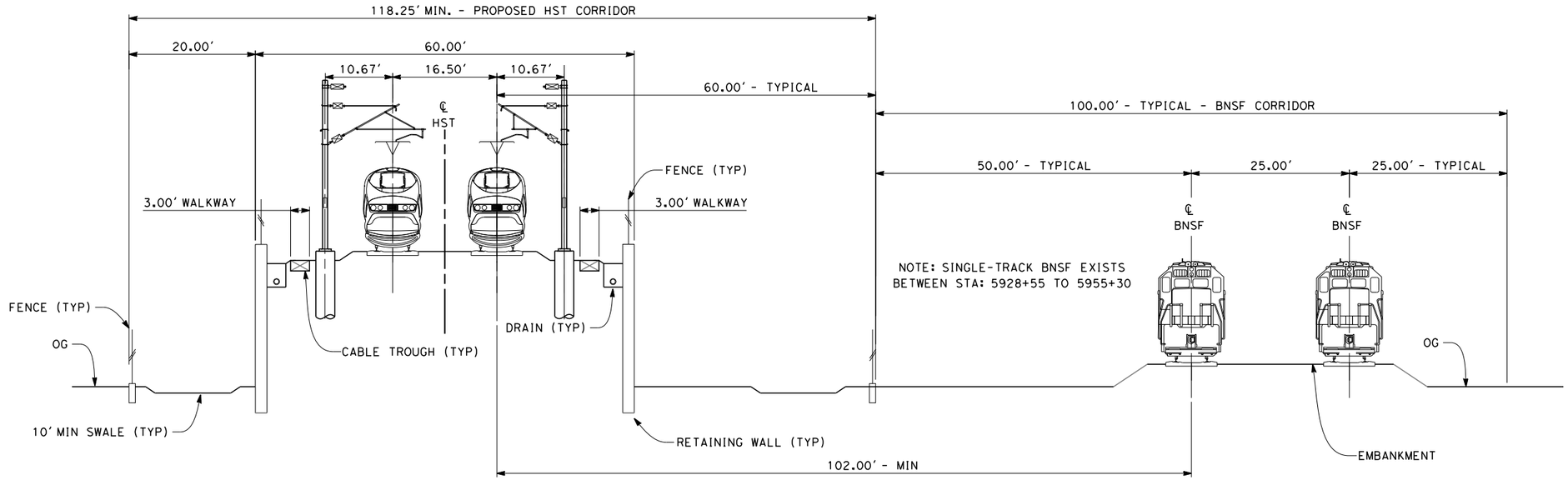
CONTRACT NO. HSR 06-0003
DRAWING NO. CB3449
SCALE AS SHOWN
SHEET NO. 29 OF 35

**RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015**

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NOTES:

1. TRACKFORM SHOWN IS INDICATIVE.
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS.
3. FOR EXTENTS OF BNSF REALIGNMENT, SEE PLAN SHEETS.
4. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.




## SECTION 6

TWIN TRACK ON RETAINED EMBANKMENT - ADJACENT TO BNSF
STA 5682+95 THROUGH STA 5709+50
STA 5928+55 THROUGH STA 5955+30

10 0 10 20
1"=10'

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
California High-Speed Train

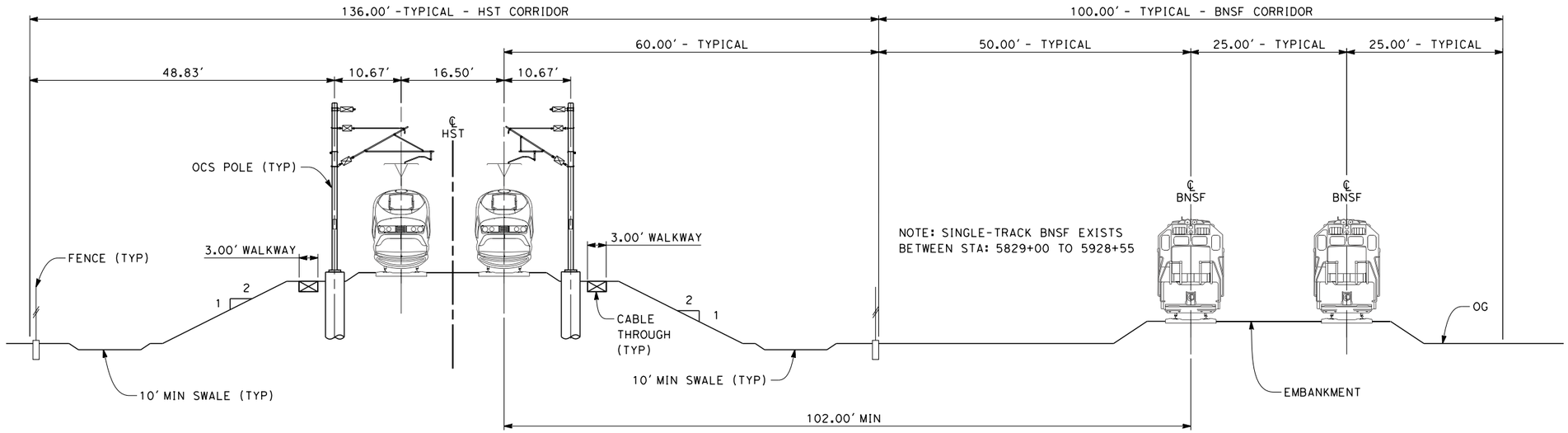
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. CB3450
SCALE AS SHOWN
SHEET NO. 30 OF 35

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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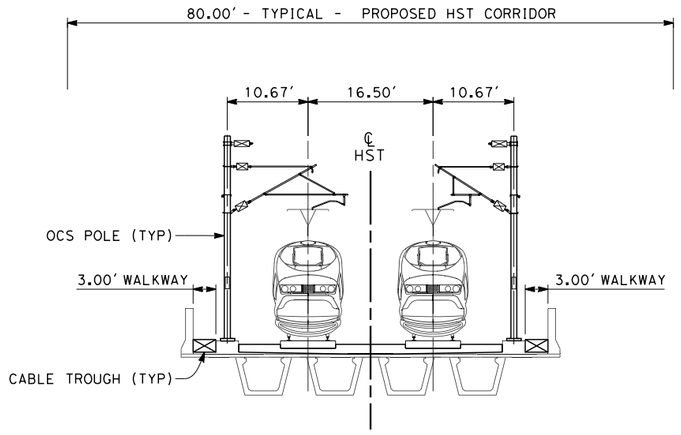



NOTES:

1. TRACKFORM SHOWN IS INDICATIVE.
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS.
3. FOR EXTENTS OF BNSF REALIGNMENTS, SEE PLAN SHEETS.
4. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.
5. PER CALTRANS HIGHWAY DESIGN MANUAL REQUIREMENTS, A HIGHWAY BARRIER IS REQUIRED WHEN ADEQUATE HORIZONTAL CLEARANCE BETWEEN ROADWAY TRAVELED WAY AND HST STRUCTURE COLUMN IS NOT MET. STA 5968+70 TO 5996+40

## SECTION 7

TWIN TRACK - ADJACENT TO BNSF
STA 5709+50 THROUGH STA 5715+96
STA 5716+80 THROUGH STA 5928+55




## SECTION 8

TWIN TRACK - ELEVATED PRECAST CONCRETE GIRDER STRUCTURE
STA 5715+96 THROUGH STA 5716+80




## SECTION 9

TWIN TRACK - AERIAL VIADUCT
STA 5955+30 THROUGH STA 6036+65

10 0 10 20
1"=10'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

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DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

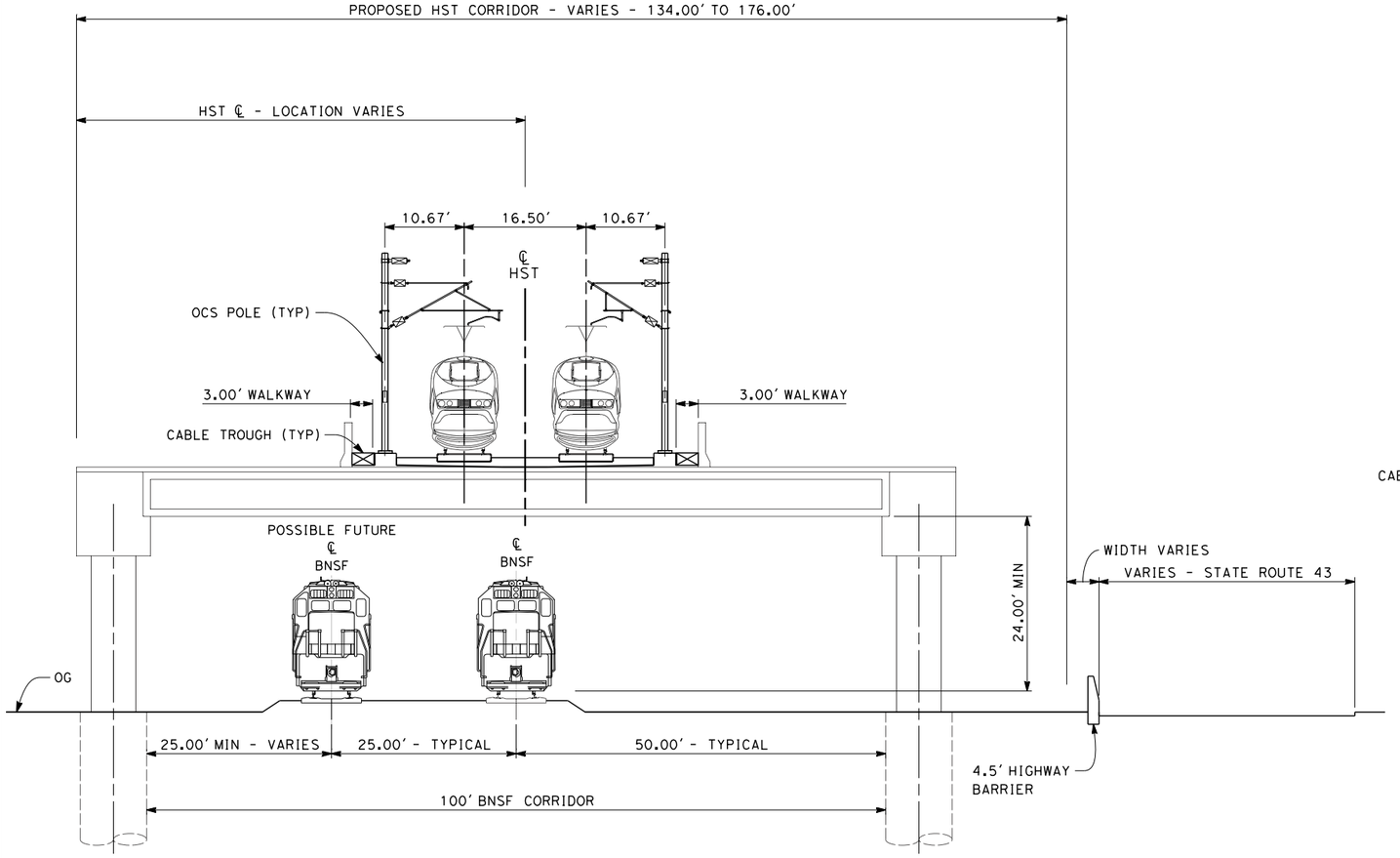
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. CB3451
SCALE AS SHOWN
SHEET NO. 31 OF 35

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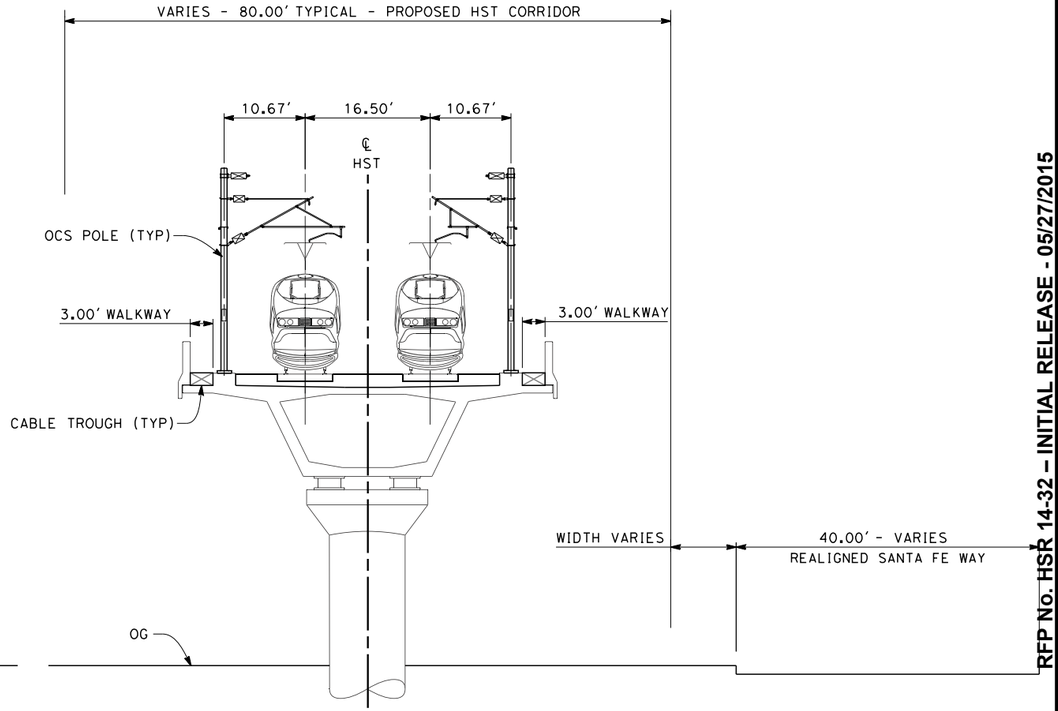
NOTES:

1. TRACKFORM SHOWN IS INDICATIVE.
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS.
3. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.
4. PER CALTRANS HIGHWAY DESIGN MANUAL REQUIREMENTS, A HIGHWAY BARRIER IS REQUIRED WHEN ADEQUATE HORIZONTAL CLEARANCE BETWEEN ROADWAY TRAVELED WAY AND HST STRUCTURE COLUMN IS NOT MET. STA 6036+65 TO 6059+05.




## SECTION 10

TWIN TRACK - ELEVATED SLAB OVER BNSF ADJACENT TO HIGHWAY
STA 6036+65 THROUGH STA 6059+05




## SECTION 11

TWIN TRACK - AERIAL VIADUCT ADJACENT TO REALIGNED SANTA FE WAY
STA 6059+05 THROUGH STA 6105+25
STA 6106+45 THOGUTH STA 6117+75

10 0 10 20
1"=10'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

$FILE$ $TIME$ $DATE$ $USER$

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY S. LITSAS
DRAWN BY J. BORGHESI
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

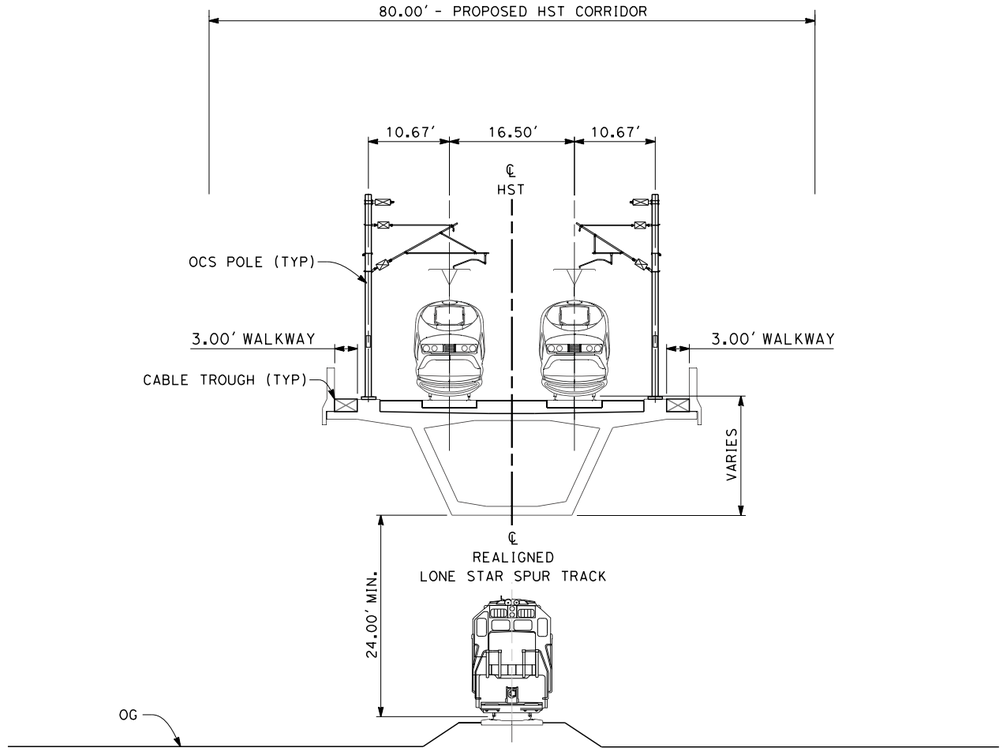
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. CB3452
SCALE AS SHOWN
SHEET NO. 32 OF 35

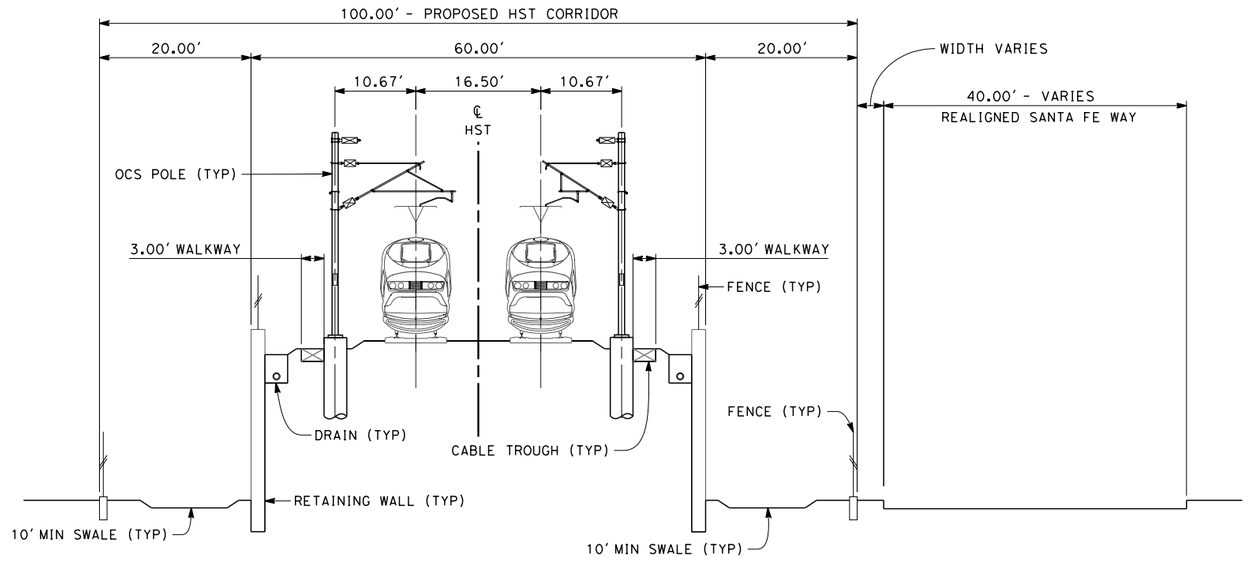
NOTES:

1. TRACKFORM SHOWN IS INDICATIVE.
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS.
3. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.




## SECTION 12

TWIN TRACK VIADUCT OVER REALIGNED LONE STAR SPUR
STA 6105+25 THROUGH STA 6106+45




## SECTION 13

TWIN TRACK ON RETAINED EMBANKMENT - ADJACENT TO REALIGNED SANTA FE WAY
STA 6117+25 THROUGH STA 6151+00

10 0 10 20
1"=10'

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DESIGNED BY S. LITSAS
DRAWN BY P. TONKIN
CHECKED BY G. WALKER
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
California High-Speed Train

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

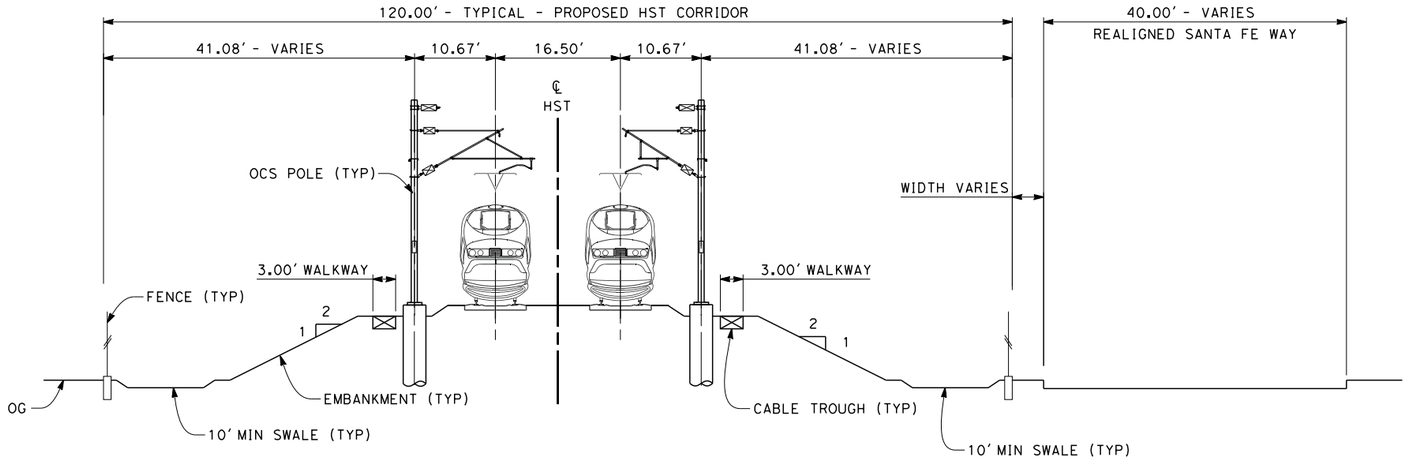
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-D3151
SCALE AS SHOWN
SHEET NO. 33 OF 35

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NOTES:

1. TRACKFORM SHOWN IS INDICATIVE.
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS.
3. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.
4. MOIF NOT SHOWN. SEE PLAN DRAWINGS.




## SECTION 14

TWIN TRACK - AT GRADE ADJACENT TO REALIGNED SANTA FE WAY
STA 6151+00 THROUGH STA 6195+00

10 0 10 20
1"=10'

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CALIFORNIA HIGH-SPEED TRAIN

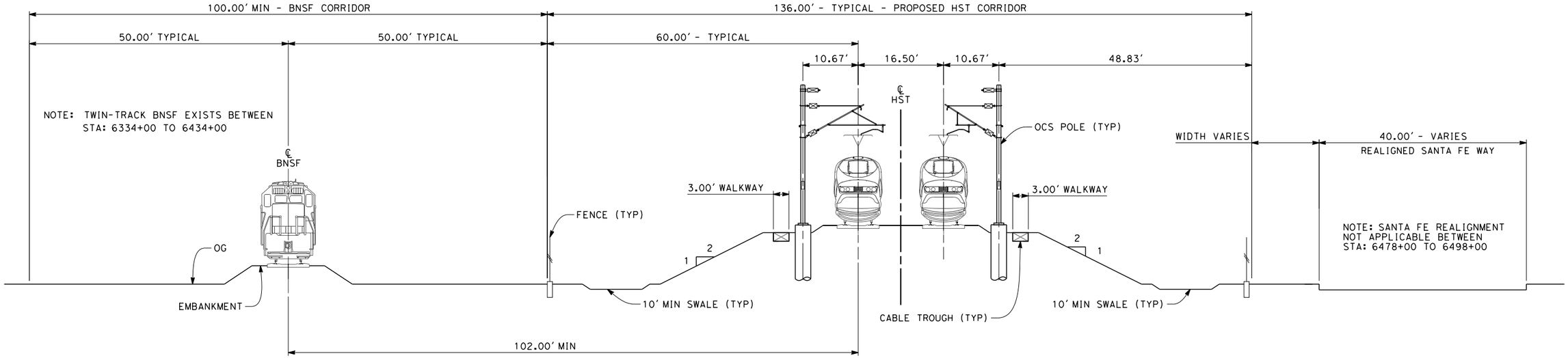
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. CB3454
SCALE AS SHOWN
SHEET NO. 34 OF 35

NOTES:

1. TRACKFORM SHOWN IS INDICATIVE.
2. FOR STRUCTURE DIMENSIONS SEE STRUCTURAL CROSS SECTIONS.
3. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.




## SECTION 15

TWIN TRACK - BETWEEN BNSF AND REALIGNED SANTA FE
STA 6195+00 THROUGH STA 6511+96.78

10 0 10 20
1"=10'

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California High-Speed Train

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. CB3455
SCALE AS SHOWN
SHEET NO. 35 OF 35

# CALIFORNIA HIGH-SPEED TRAIN

## HST Structure Plans




# RECORD SET 15% DESIGN SUBMISSION

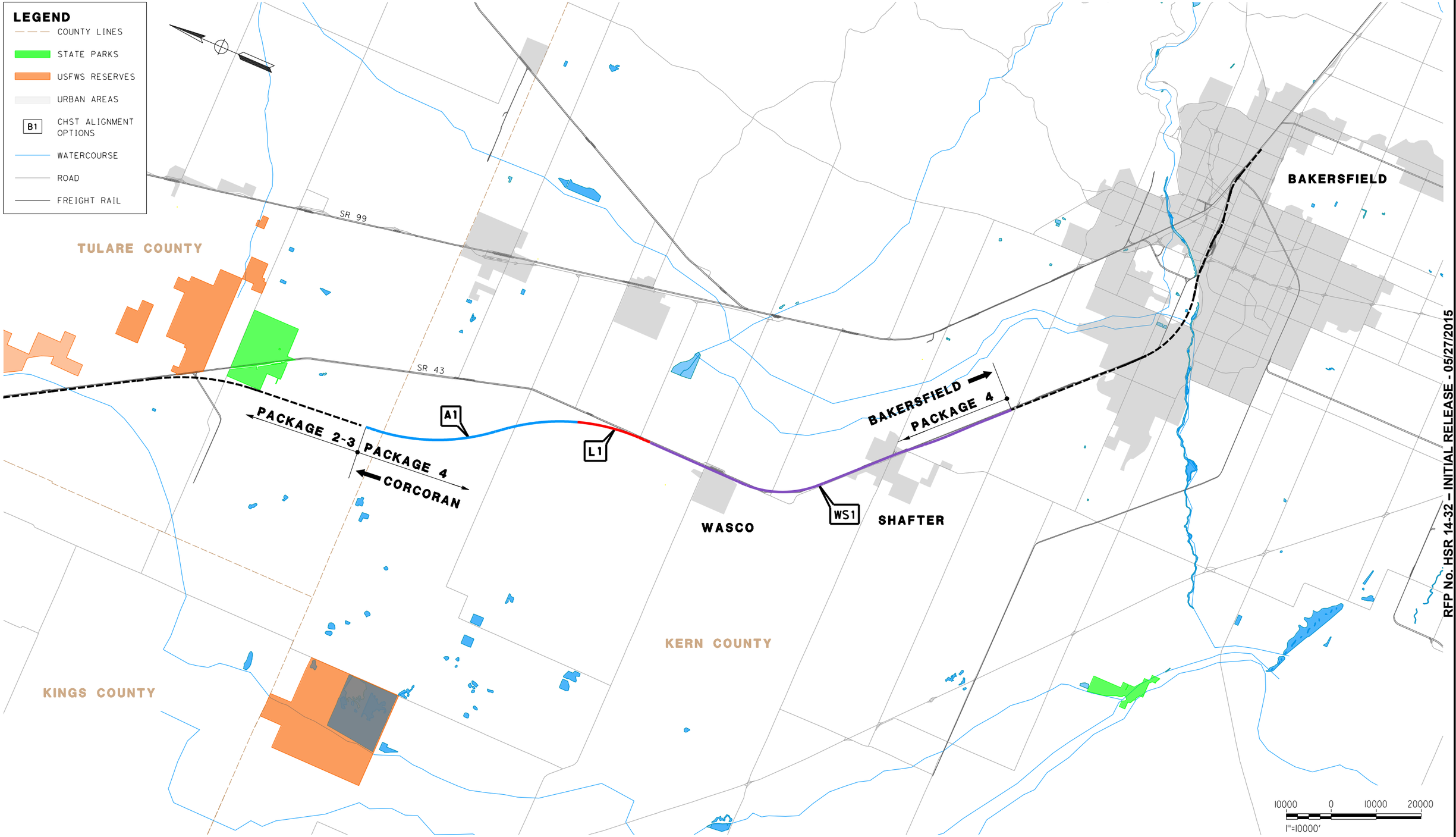
# Fresno to Bakersfield

## Plans and Elevations and Typical Sections

May 2014

CALIFORNIA High-Speed Rail Authority

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015




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DRAWN BY P. TONKIN
CHECKED BY S. BURGES
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
PACKAGE 4
ALIGNMENT
LOCATION MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-B1100
SCALE AS SHOWN
SHEET NO. 1 OF 4

## GENERAL SHEETS

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| TT-B1100 | | PACKAGE 4 - ALIGNMENT - LOCATION MAP | 1 OF 4 |
| GE-A0028 | | HST STRUCTURES - INDEX OF SHEETS | 2 OF 4 |
| CB0010 | | GENERAL - ABBREVIATIONS AND LEGENDS - SHEET 1 OF 2 | 3 OF 4 |
| CB0011 | | GENERAL - ABBREVIATIONS AND LEGENDS - SHEET 2 OF 2 | 4 OF 4 |

## ALIGNMENT L1 - POSO CREEK BRIDGE

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| SV1600 | | POSO CREEK SUBSECTION - ALIGNMENT L1 - POSO CREEK BRIDGE - KEY MAP | 1 OF 2 |
| SV1601 | | POSO CREEK SUBSECTION - ALIGNMENT L1 - POSO CREEK BRIDGE - PLAN AND ELEVATION | 2 OF 2 |

## ALIGNMENT WS1 - STATE ROUTE 46 UNDERPASS

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| SV1698 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STATE ROUTE 46 UNDERPASS - KEY MAP | 1 OF 2 |
| SV1699 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - STATE ROUTE 46 UNDERPASS - PLAN AND ELEVATION | 2 OF 2 |

## ALIGNMENT WS1 - WASCO VIADUCT

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| SV1700 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - KEY MAP | 1 OF 15 |
| SV1703 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 2 OF 15 |
| SV1704 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 3 OF 15 |
| SV1705 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 4 OF 15 |
| SV1706 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 5 OF 15 |
| SV1707 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 6 OF 15 |
| SV1708 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 7 OF 15 |
| SV1709 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 8 OF 15 |
| SV1710 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 9 OF 15 |
| SV1711 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 10 OF 15 |
| SV1712 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 11 OF 15 |
| SV1713 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 12 OF 15 |
| SV1714 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 13 OF 15 |
| SV1715 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - PLAN AND ELEVATION | 14 OF 15 |
| SV1716 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - WASCO VIADUCT - TYPICAL SECTIONS | 15 OF 15 |

## ALIGNMENT WS1 - KIMBERLINA ROAD UNDERPASS

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| SV1720 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - KIMBERLINA ROAD UNDERPASS - KEY MAP | 1 OF 3 |
| SV1721 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - KIMBERLINA ROAD UNDERPASS - PLAN AND ELEVATION | 2 OF 3 |
| SV1722 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - KIMBERLINA ROAD BNSF UNDERPASS - PLAN AND ELEVATION | 3 OF 3 |

## ALIGNMENT WS1 - SHAFTER VIADUCT

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| SV1750 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - KEY MAP | 1 OF 20 |
| SV1756 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 2 OF 20 |
| SV1757 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 3 OF 20 |
| SV1758 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 4 OF 20 |
| SV1759 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 5 OF 20 |
| SV1760 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 6 OF 20 |
| SV1761 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 7 OF 20 |
| SV1762 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 8 OF 20 |
| SV1763 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 9 OF 20 |
| SV1764 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 10 OF 20 |
| SV1765 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 11 OF 20 |
| SV1766 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 12 OF 20 |
| SV1767 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 13 OF 20 |
| SV1768 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 14 OF 20 |
| SV1769 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 15 OF 20 |
| SV1770 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 16 OF 20 |
| SV1771 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 17 OF 20 |
| SV1772 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - PLAN AND ELEVATION | 18 OF 20 |
| SV1773 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - TYPICAL SECTIONS | 19 OF 20 |
| SV1774 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - SHAFTER VIADUCT - TYPICAL SECTIONS | 20 OF 20 |

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DESIGNED BY P. TONKIN
DRAWN BY P. TONKIN
CHECKED BY K. SEYMOUR
IN CHARGE S. BURGES
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
HSR STRUCTURES
INDEX OF SHEETS

CONTRACT NO. HSR 06-0003
DRAWING NO. GE-A0028
SCALE NO SCALE
SHEET NO. 2 OF 4

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## A

| | |
|---|---|
| AB | AGGREGATE BASE |
| ABBC | ASBESTOS BONDED BITUMINOUS COATED |
| ABM | AIR-BLOWN MORTAR |
| ABN | ABANDON |
| ABUT | ABUTMENT |
| AC | ASPHALT CONCRETE |
| ACB | ASPHALT CONCRETE BASE |
| ACP | ASBESTOS CEMENT PIPE |
| ADL | ADDED DEAD LOAD |
| ADJ | ADJUST |
| AFES | ALTERNATIVE FLARED END SECTION |
| AHD | AHEAD |
| ALT | ALTERNATE |
| AM | TIME FROM MIDNIGHT TO NOON |
| AP | ALTERNATIVE PIPE |
| APC | ALTERNATIVE PIPE CULVERT |
| APPROX | APPROXIMATE |
| APU | ALTERNATIVE PIPE UNDERDRAIN |
| ARS | ACCELERATION RESPONSE SPECTRUM |
| AR | ACCESS RESTRICTION |
| AS | AGGREGATE SUBBASE |
| ASRP | ALUMINUM SPIRAL RIB PIPE |
| ASSY | ASSEMBLY |
| ATPB | ASPHALT TREATED PERMEABLE BASE |
| ATPM | ASPHALT TREATED PERMEABLE MATERIAL |
| AVE | AVENUE |
| AVG | AVERAGE |
| @ | AT |

## B

| | |
|---|---|
| BAGR | BRIDGE APPROACH GUARD RAILING |
| BB | BEGINNING OF BRIDGE |
| BC | BEGIN HORIZONTAL CURVE |
| BCC | BALANCED CANTILEVER CONSTRUCTION |
| BCR | BEGIN CURB RETURN |
| BEG | BEGIN |
| BIT CTD | BITUMINOUS COATED |
| BK | BACK |
| BKF | BACKFILL |
| BLDG | BUILDING |
| BLM | BRIDGE-LOG MILE |
| BLVD | BOULEVARD |
| BM | BENCH MARK |
| BND | BOUND |
| BNSF | BURLINGTON NORTH & SANTA FE |
| BOT | BOTTOM |
| BR | BRIDGE |
| BRG | BEARING |
| BTU | BRITISH THERMAL UNIT |
| BVC | BEGIN VERTICAL CURVE |
| BW | BARBED WIRE |

## C

| | |
|---|---|
| CAA | CABLE ANCHOR ASSEMBLY |
| CAP | CORRUGATED ALUMINUM PIPE |
| CAPA | CORRUGATED ALUMINUM PIPE ARCH |
| CAS | CONSTRUCTION AREA SIGN |
| CB | CONCRETE BARRIER |
| CBW | CONCRETE BLOCK WALL |
| C-C | CENTER TO CENTER |

## C CONTINUED

| | |
|---|---|
| CHSRA | CALIFORNIA HIGH SPEED RAIL AUTHORITY |
| CHST | CALIFORNIA HIGH SPEED TRAIN |
| CHSR | CALIFORNIA HIGH SPEED RAIL |
| CG | CENTER OF GRAVITY |
| CHNL | CHANNEL |
| CI | CAST IRON |
| CIDH | CAST-IN-DRILLED-HOLE |
| CIP,C-I-P | CAST-IN-PLACE, CAST IRON PIPE |
| CIPCP | CAST IN PLACE CONCRETE PIPE |
| CISS | CAST-IN-STEEL-SHELL |
| CJP | COMPLETE JOINT PENETRATION |
| CL | CENTERLINE, CLASS |
| CL2 | CLASS 2 |
| CL-6 | CHAIN LINK FENCE (6 FT) |
| CLR | CLEAR, CLEARANCE |
| CM | CORRUGATED METAL |
| CMP | CORRUGATED METAL PIPE |
| CO | COUNTY |
| COL | COLUMN |
| CONC | CONCRETE |
| COND | CONDUIT |
| CONN | CONNECTOR |
| CONST | CONSTRUCT, CONSTRUCTION |
| CONT | CONTINUOUS |
| COORD | COORDINATE |
| CP | CLEARANCE POINT |
| CR | CREEK |
| CRCP | CONTINUOUS REINFORCED CONCRETE PAVEMENT |
| CRSP | CONCRETED ROCK SLOPE PROTECTION |
| CS | CURVE TO SPIRAL |
| CSP | CORRUGATED STEEL PIPE |
| CSPA | CORRUGATED STEEL PIPE ARCH |
| CTB | CEMENT TREATED BASE |
| CTPB | CEMENT TREATED PERMEABLE BASE |
| CTPM | CEMENT TREATED PERMEABLE MATERIAL |
| CTRS | CENTERS |
| CVFPB | CENTRAL VALLEY FLOOD PROTECTION BOARD |
| CULV | CULVERT |
| ℄ | CENTERLINE |

## D

| | |
|---|---|
| D | DEPTH |
| DD | DOWNDRAIN, DIRECTIVE DRILLING |
| DBL | DOUBLE |
| DEG | DEGREE |
| DEL | DELINEATOR |
| DET | DETAIL, DETOUR |
| DF | DOUGLAS FIR |
| DI | DRAINAGE INLET, DROP INLET |
| DIA | DIAMETER |
| DIAPH | DIAPHRAGM |
| DIST | DISTANCE, DISTRICT |
| DMBB | DOUBLE METAL BEAM BARRIER |
| DR | DRIVE |
| DTBB | DOUBLE THRIE BEAM BARRIER |
| DWY | DRIVEWAY |

## E

| | |
|---|---|
| E | EAST, EASTING |
| EA | ACTUAL SUPERELEVATION |
| EU | UNBALANCED SUPERELEVATION |

## E CONTINUED

| | |
|---|---|
| EASE | EASEMENT |
| EB | END OF BRIDGE, EASTBOUND |
| EC | END HORIZONTAL CURVE |
| ECR | END CURB RETURN |
| ED | EDGE DRAIN |
| EDC | EDGE DRAIN CLEANOUT |
| EDO | EDGE DRAIN OUTLET |
| EDV | EDGE DRAIN VENT |
| ELEC | ELECTROLIER |
| ELECT | ELECTRIC |
| ELEV | ELEVATION |
| EMB | EMBANKMENT |
| ENGR | ENGINEER |
| EOD | EDGE OF DECK |
| EP | EDGE OF PAVEMENT |
| EQ | EQUATION, EQUAL |
| ES | EDGE OF SHOULDER |
| ETW | EDGE OF TRAVELED WAY |
| EVC | END VERTICAL CURVE |
| EW | ENDWALL |
| EXC | EXCAVATION |
| EXIST, EX. | EXISTING |
| EXP | EXPANSION |
| EXP JT | EXPANSION JOINT |
| EXWY | EXPRESSWAY |
| EXT | EXTERIOR |

## F

| | |
|---|---|
| F & C | FRAME AND COVER |
| F & G | FRAME AND GRATE |
| FB | FLOOR BEAM |
| F-B | FRESNO TO BAKERSFIELD |
| FDN | FOUNDATION |
| FEBT | FACING EASTBOUND TRAFFIC |
| FES | FLARED END SECTION |
| FF | FILTER FABRIC |
| FG | FINISHED GRADE |
| FH | FIRE HYDRANT |
| FIG | FIGURE |
| FL | FLOW LINE |
| FNBT | FACING NORTHBOUND TRAFFIC |
| FOC | FACE OF CONCRETE |
| FR RD | FRONTAGE ROAD |
| FS | FAR SIDE, FINISHED SURFACE |
| FSBT | FACING SOUTHBOUND TRAFFIC |
| FT | FOOT, FEET |
| FTG | FOOTING |
| FWBT | FACING WESTBOUND TRAFFIC |
| FWY | FREEWAY |
| FPLM | FULL SPAN PRECAST LAUNCHING METHOD |

## G

| | |
|---|---|
| G | ACCELERATION DUE TO GRAVITY |
| GA | GAGE |
| GALV | GALVANIZED |
| GP | GRADING PLANE |
| GR | GUARD RAILING |
| GSP | GALVANIZED STEEL PIPE |
| GTR | GUTTER |

## H

| | |
|---|---|
| H | HEIGHT |
| HR | HOUR |
| HD | HORIZONTAL DRAIN |
| HDWL | HEADWALL |
| HEX HD | HEXAGONAL HEAD |
| HMA | HOT MIXED ASPHALT |
| HORIZ | HORIZONTAL |
| HP | HINGE POINT, HORSEPOWER |
| HPS | HIGH PERFORMANCE STEEL |
| HS | HIGH STRENGTH |
| HST | HIGH SPEED TRAIN |
| HSR | HIGH SPEED RAIL |
| HW | HEADWALL, HIGH WATER |
| HWM | HIGH WATER MARK |
| HWY | HIGHWAY |

## I

| | |
|---|---|
| IB | IMPORTED BORROW |
| ID | INSIDE DIAMETER |
| IF | INSIDE FACE |
| IN | INCH, INCHES |
| INT | INTERIOR |
| INV | INVERT |
| IRR | IRRIGATION |

## J

| | |
|---|---|
| JCT | JUNCTION |
| JP | JOINT POLE |
| JPCP | JOINTED PLAIN CONCRETE PAVEMENT |
| JS | JUNCTION STRUCTURE |
| JT | JOINT |

## K

| | |
|---|---|
| K | DISTANCE TO ACHIEVE 1% GRADE CHANGE |

## L

| | |
|---|---|
| L | LENGTH |
| LAT | LATITUDE |
| LCB | LEAN CONCRETE BASE |
| LN | LANE |
| LOC | LOCATION |
| LOL | LAYOUT LINE |
| LONG | LONGITUDE |
| LONGIT | LONGITUDINAL |
| LS | LENGTH OF SPIRAL |
| LC | LENGTH OF CURVE |
| LT | LEFT |

## M

| | |
|---|---|
| MAINT | MAINTENANCE |
| MAX | MAXIMUM |
| MB | METAL BEAM |
| MBB | METAL BEAM BARRIER |
| MBGR | METAL BEAM GUARD RAILING |
| MED | MEDIAN |
| M-F | MERCED TO FRESNO |
| MH | MANHOLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MISC I & S | MISCELLANEOUS IRON AND STEEL |
| MKR | MARKER |
| M/L | MAIN LINE (RAILWAY) |

## M CONTINUED

| | |
|---|---|
| MOD | MODIFIED, MODIFY |
| MON | MONUMENT |
| MP | METAL PLATE |
| MPGR | METAL PLATE GUARD RAILING |
| MPH | MILES PER HOUR |
| MR | MOVEMENT RATING |
| MSE | MECHANICALLY STABILIZED EARTH |
| MTL | MATERIAL |
| MSS | MOVING SCAFFOLDING SYSTEM |

## N

| | |
|---|---|
| N | NORTH, NORTHING |
| NB | NORTHBOUND |
| NO. | NUMBER (MUST HAVE PERIOD) |
| NOS. | NUMBERS (MUST HAVE PERIOD) |
| NPS | NOMINAL PIPE SIZE |
| NS | NEAR SIDE |
| NTS | NOT TO SCALE |
| N/A | NOT APPLICABLE |

## O

| | |
|---|---|
| OBLR | OBLITERATE |
| OC | OVERCROSSING |
| OCS | OVERHEAD CONTACT SYSTEM |
| OD | OUTSIDE DIAMETER |
| OF | OUTSIDE FACE |
| OG | ORIGINAL GROUND |
| OGAC | OPEN GRADED ASPHALT CONCRETE |
| OH | OVERHEAD |
| O-O | OUT TO OUT |
| OPP | OPPOSITE |

## P

| | |
|---|---|
| P | PAGE |
| PAP | PERFORATED ALUMINUM PIPE |
| PB | PULL BOX |
| PC | POINT OF CURVATURE, PRECAST |
| PCC | POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE |
| PCP | PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE |
| PCVC | POINT OF COMPOUND VERTICAL CURVE |
| PED | PEDESTRIAN |
| PED OC | PEDESTRIAN OVERCROSSING |
| PED UC | PEDESTRIAN UNDERCROSSING |
| PERM MTL | PERMEABLE MATERIAL |
| PG | PROFILE GRADE |
| PI | POINT OF INTERSECTION |
| PJP | PARTIAL JOINT PENETRATION |
| ℄,PL | PLATE |
| P/L | PROPERTY LINE |
| PM | POST MILE, TIME FROM NOON TO MIDNIGHT |
| PN | PAVING NOTCH |
| POB | POINT OF BEGINNING |
| POC | POINT OF HORIZONTAL CURVE |
| POE | POINT OF ENDING |
| POT | POINT OF TANGENT |
| POVC | POINT OF VERTICAL CURVE |
| PP | PIPE PILE, PLASTIC PIPE, POWER POLE |
| PPL | PREFORMED PERMEABLE LINER |
| PPP | PERFORATED PLASTIC PIPE |
| PRC | POINT OF REVERSE CURVE |

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DESIGNED BY K. SEYMOUR
DRAWN BY P. TONKIN
CHECKED BY D. HUNT
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD

GENERAL
ABBREVIATIONS AND LEGENDS
SHEET 1 OF 2

CONTRACT NO. HSR 06-0003
DRAWING NO. CB0010
SCALE NO SCALE
SHEET NO. 3 OF 4

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## P CONTINUED

| | |
|---|---|
| PRF | PAVEMENT REINFORCING FABRIC |
| PRVC | POINT OF REVERSE VERTICAL CURVE |
| PS&E | PLANS, SPECIFICATIONS AND ESTIMATES |
| PS, P/S | PRESTRESSED, PARALLEL STATION |
| PSP | PERFORATED STEEL PIPE |
| PT | POINT OF TANGENCY |
| PVC | POLYVINYL CHLORIDE |
| PVI | POINT OF VERTICAL INTERSECTION |
| PVMT | PAVEMENT |
| PVP | MAINTENANCE VEHICLE PULLOUT |

## Q

| | |
|---|---|
| QTY | QUANTITY |

## R

| | |
|---|---|
| R | RADIUS |
| R & D | REMOVE AND DISPOSE |
| R & S | REMOVE AND SALVAGE |
| R/C | RATE OF CHANGE |
| RCA | REINFORCED CONCRETE ARCH |
| RCB | REINFORCED CONCRETE BOX |
| RCP | REINFORCED CONCRETE PIPE |
| RCPA | REINFORCED CONCRETE PIPE ARCH |
| RD | ROAD |
| REINF | REINFORCED, REINFORCEMENT, REINFORCING |
| REL | RELOCATE |
| REPL | REPLACEMENT |
| RET | RETAINING |
| REV | REVISED |
| RDWY | ROADWAY |
| RM | ROAD-MIXED |
| RP | RADIUS POINT, REFERENCE POINT |
| RR | RAILROAD |
| RSP | ROCK SLOPE PROTECTION |
| RT | RIGHT |
| RTE | ROUTE |
| RW | REDWOOD, RETAINING WALL |
| R/W, ROW | RIGHT OF WAY |
| RWY | RAILWAY |

## S

| | |
|---|---|
| S | SOUTH, SUPPLEMENT |
| SAE | STRUCTURE APPROACH EMBANKMENT |
| SALV | SALVAGE |
| SAPP | STRUCTURAL ALUMINUM PLATE PIPE |
| SB | SOUTHBOUND |
| SC | SPIRAL TO CURVE |
| SCSP | SLOTTED CORRUGATED STEEL PIPE |
| SD | STORM DRAIN |
| SEC | SECOND |
| SECT | SECTION |
| SEP | SEPARATION |
| SG | SUBGRADE |
| SHLD | SHOULDER |
| SHT | SHEET |
| SIM | SIMILAR |
| S | STATION LINE |
| SM | SELECTED MATERIAL |
| SPEC | SPECIAL, SPECIFICATIONS |
| SPP | SLOTTED PLASTIC PIPE |
| SS | SLOPE STAKE, SPIRAL TO SPIRAL |

## S CONTINUED

| | |
|---|---|
| SSBM | STRAP AND SADDLE BRACKET METHOD |
| SSD | STRUCTURAL SECTION DRAIN |
| SSPA | STRUCTURAL STEEL PLATE ARCH |
| SSPP | STRUCTURAL STEEL PLATE PIPE |
| SSPPA | STRUCTURAL STEEL PLATE PIPE ARCH |
| SSRP | STEEL SPIRAL RIB PIPE |
| SR | STATE ROUTE |
| ST | STREET, SPIRAL TO TANGENT |
| STA | STATION |
| STBB | SINGLE THRIE BEAM BARRIER |
| STD | STANDARD |
| STR | STRUCTURE |
| SRS | STAND ALONE RADIO SITE |
| SURF | SURFACING |
| SW | SIDEWALK, SOUND WALL |
| SWR | SEWER |
| SWS | SWITCHING STATION |
| SYM | SYMMETRICAL |
| S4S | SURFACE 4 SIDES |
| SJVR | SAN JOAQUIN VALLEY RAILROAD |

## T

| | |
|---|---|
| T | SEMI-TANGENT |
| TAB | TABLET |
| TAN | TANGENT |
| TBB | THRIE BEAM BARRIER |
| TBR | TIMBER |
| TC | TOP OF CURB, TANGENT TO CURVE |
| TCB | TRAFFIC CONTROL BOX |
| TEL | TELEPHONE |
| TEMP | TEMPORARY |
| TG | TOP OF GRADE |
| TOT | TOTAL |
| TM | TECHNICAL MEMORANDUM |
| TP | TELEPHONE POLE |
| TPB | TREATED PERMEABLE BASE |
| TPM | TREATED PERMEABLE MATERIAL |
| TPSS | TRACTION POWER SUPPLY STATION |
| TRANS | TRANSITION, TRANSVERSE |
| TS | TRAFFIC SIGNAL, TUBULAR STEEL, TANGET TO SPIRAL |
| TYP | TYPICAL |
| TOR | TOP OF RAIL |

## U

| | |
|---|---|
| UC | UNDERCROSSING |
| UD | UNDERDRAIN |
| UON | UNLESS OTHERWISE NOTED |
| UP | UNDERPASS |
| UPRR | UNION PACIFIC RAILROAD |
| USFWS | UNITED STATES FISH AND WILDLIFE SERVICE |

## V

| | |
|---|---|
| V | VALVE, DESIGN SPEED |
| VAR | VARIABLE |
| VC | VERTICAL CURVE |
| VCP | VITRIFIED CLAY PIPE |
| VERT | VERTICAL |
| VIA | VIADUCT |
| VOL | VOLUME |

## W

| | |
|---|---|
| W | WEST, WIDTH |
| WB | WESTBOUND |
| WH | WEEP HOLE |
| WM | WIRE MESH |
| WS | WATER SURFACE |
| WSP | WELDED STEEL PIPE |
| WT | WEIGHT |
| WV | WATER VALVE |
| WW | WINGWALL |
| WWLOL | WINGWALL LAYOUT LINE |
| W/ | WITH |

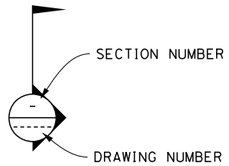
## X

| | |
|---|---|
| X SEC | CROSS SECTION |
| XING | CROSSING |

## Y

| | |
|---|---|
| YR | YEAR |
| YRS | YEARS |

## LEGEND




| | |
|---|---|
| —-E— | PROPOSED ELECTRICITY LINE |
| —-e— | EXISTING ELECTRICITY LINE |
| —-e—(oh)— | EXISTING OVERHEAD ELECTRICITY LINE |
| —-E—(OH)— | PROPOSED OVERHEAD ELECTRICTY LINE |
| ——— | PROPOSED HST RIGHT OF WAY |
| — — — — | PROPOSED HST TRACK CENTERLINE |
| | RETAINING WALL |
| | TOE OF SLOPE / TOP OF CUT |

CONTROL LINE EXAMPLE "A" LINE

255+00 260+00 265+00

TRACK (PLAN AND ELEVATION)

TRACK TO BE REMOVED AND RELOCATED PER BNSF

REMOVE BASE & SURFACING

SOUND BARRIER (POTENTIAL)

DIRECTION OF FLOW

WATER SURFACE

## GENERAL NOTES

1. TRACK PROFILE IS DESIGNED AS TOP OF THE LOW RAIL. VERTICAL CLEARANCE REQUIREMENTS ARE MEASURED FROM THE TOP OF THE HIGH RAIL ON SUPERELEVATED TRACK. THE CLEARANCE ENVELOPES SHOWN DEMONSTRATE THE MINIMUM CLEARANCE REQUIREMENTS.

2. MINIMUM VERTICAL CLEARANCE REQUIREMENTS TO CANALS AND DITCHES ARE NOT KNOWN. FURTHER CONSULTATION WITH THE WATERCOURSE OWNERS WILL BE REQUIRED TO DETERMINE NECESSARY CLEARANCES.

3. THE FOLLOWING ARE ROADWAY DESIGN STANDARDS AND GUIDELINES:
   A. CALTRANS HIGHWAY DESIGN MANUAL (2012)
   B. AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (2011)
   C. AASHTO ROADSIDE DESIGN GUIDE (2011)
   D. APPLICABLE LOCAL DESIGN STANDARD AND GUIDELINES (I.E., CITY OF FRESNO)

4. THE FEMA FLOODPLAIN BOUNDARIES ARE CALLED OUT AS "LIMIT OF 100YR FEMA FLOODPLAIN". THE LIMITS OF THE MODELED 100 YEAR WATER SURFACE ELEVATIONS (WSE) ARE APPROXIMATE AND ARE MARKED WITH THE NAME OF THE WATERBODY ASSOCIATED WITH THE MODELED FLOODING, E.G. "LIMIT OF POSO CREEK FLOODPLAIN".

5. THE STRUCTURE DESIGN ASSUMES THAT THE DEPTH FROM TOR TO TOP OF DECK IS 2'-6" THROUGHOUT. HOWEVER, WHERE BALLASTED TRACK FORM IS USED, THE HEIGHT FROM TOR TO DECK SHALL BE 2'-9" PLUS AN ALLOWANCE FOR WATERPROOF MEMBRANE, AND PROTECTION LAYER IF REQUIRED. FOR SLAB TRACKFORM, THE HEIGHT FROM TOR TO DECK SHALL BE 2'-6" PLUS AN ALLOWANCE FOR WATERPROOF MEMBRANE AND PROTECTION LAYER IF REQUIRED.

6. WHERE THE VERTICAL ALIGNMENT GRADE IS LESS THAN 0.5% THE UPPER SURFACE OF THE VIADUCT STRUCTURE SHALL BE PROFILED TO GIVE A MINIMUM LONGITUDINAL FALL OF 0.5%. TYPICALLY FOR A SPAN OF 120'-00" ON A 0% GRADE SECTION OF VIADUCT THIS COULD BE ACHIEVED BY MODIFYING THE CROSS SLOPE OF THE GIRDER LINEARLY BETWEEN 0.8% AT MID-SPAN TO 2% AT EACH END.

7. WHEN LATERAL SEPARATION BETWEEN THE CONVENTIONAL RAILROAD AND HST SYSTEM IS LESS THAN 102', A SITE SPECIFIC HAZARD ANALYSIS WILL BE CONDUCTED TO DETERMINE WHAT SPECIFIC COLLISION PROTECTION MEASURES MAY NEED TO BE IMPLEMENTED.

8. RIP-RAP PROTECTION IS REQUIRED FOR EMBANKMENTS WITHIN FEMA SPECIAL FLOOD HAZARD ZONES, IN ACCORDANCE WITH DESIGN CRITERIA.

9. HST ALIGNMENT CONTROL LINE IS DESIGNED AS THE CENTERLINE BETWEEN THE TWO MAINLINE TRACKS.

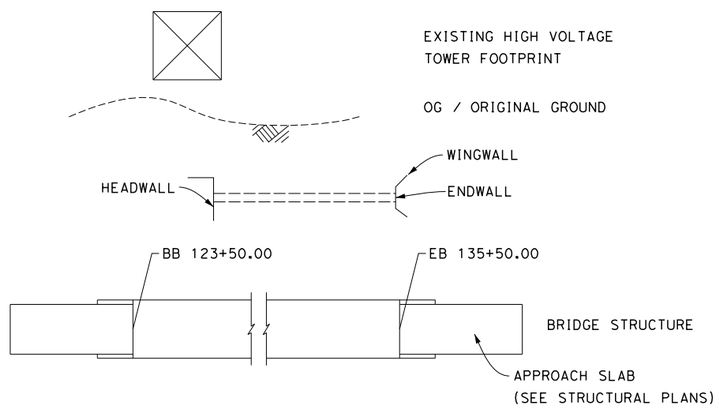
10. TRACK FORM USED IN TYPICAL SECTIONS IS INDICATIVE.

DIRECTION OF TRAFFIC

POINT OF MINIMUM VERTICAL CLEARANCE
ROAD CLOSURE (ROADWAYS)

1 LINE DATA

1 3 CURVE DATA (ALIGNMENTS)
CURVE DATA (STRUCTURES)




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DATE 12/31/13

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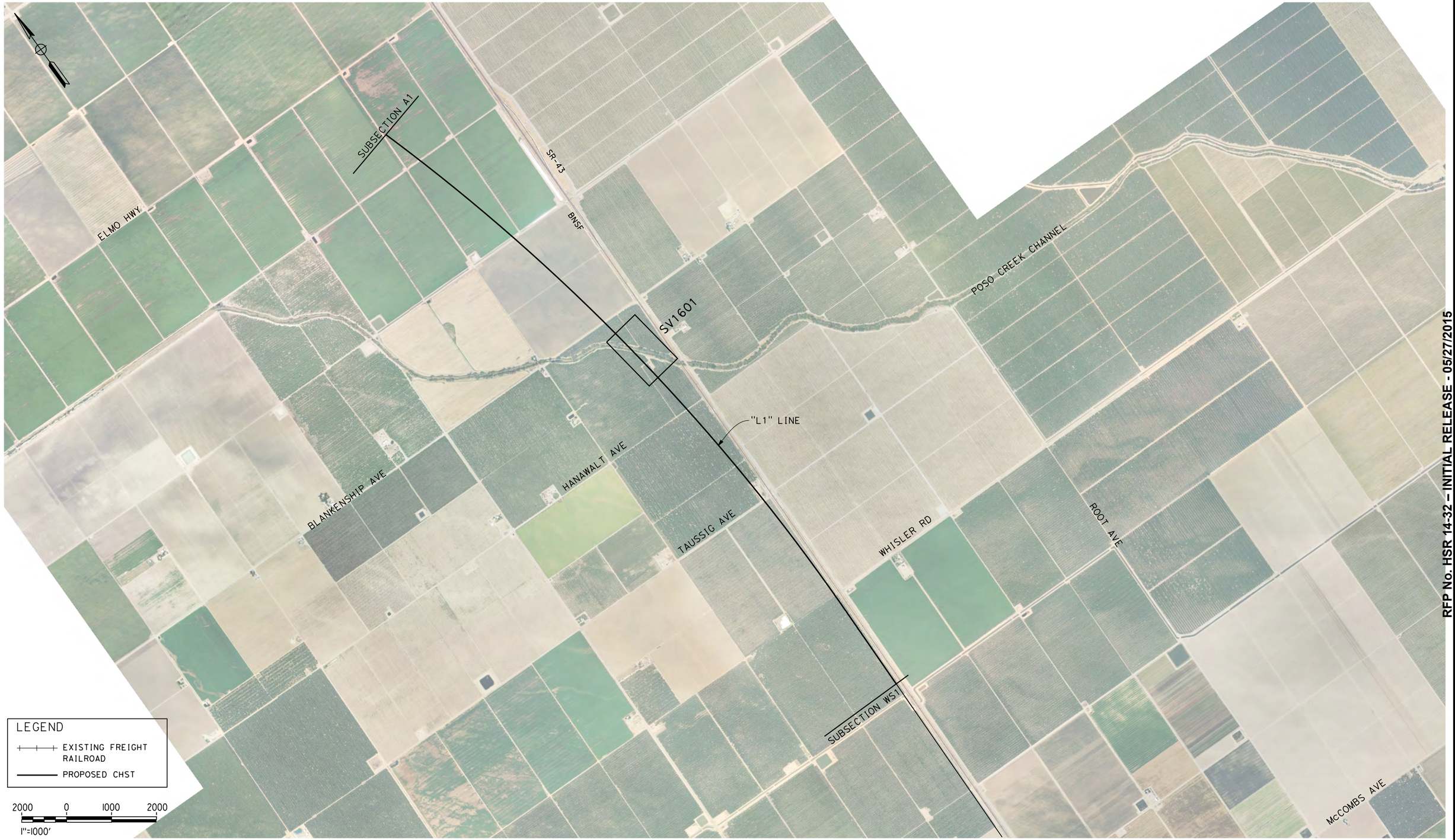
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
GENERAL
ABBREVIATIONS AND LEGENDS
SHEET 2 OF 2

CONTRACT NO. HSR 06-0003
DRAWING NO. CB0011
SCALE NO SCALE
SHEET NO. 4 OF 4

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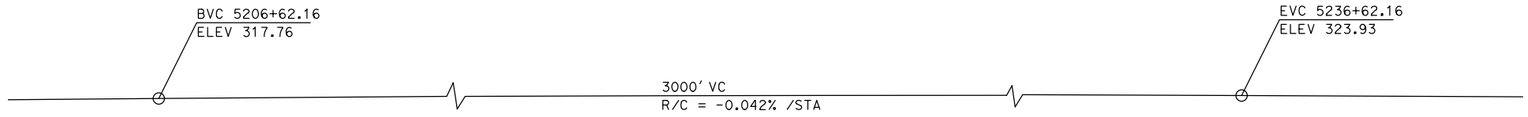
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD

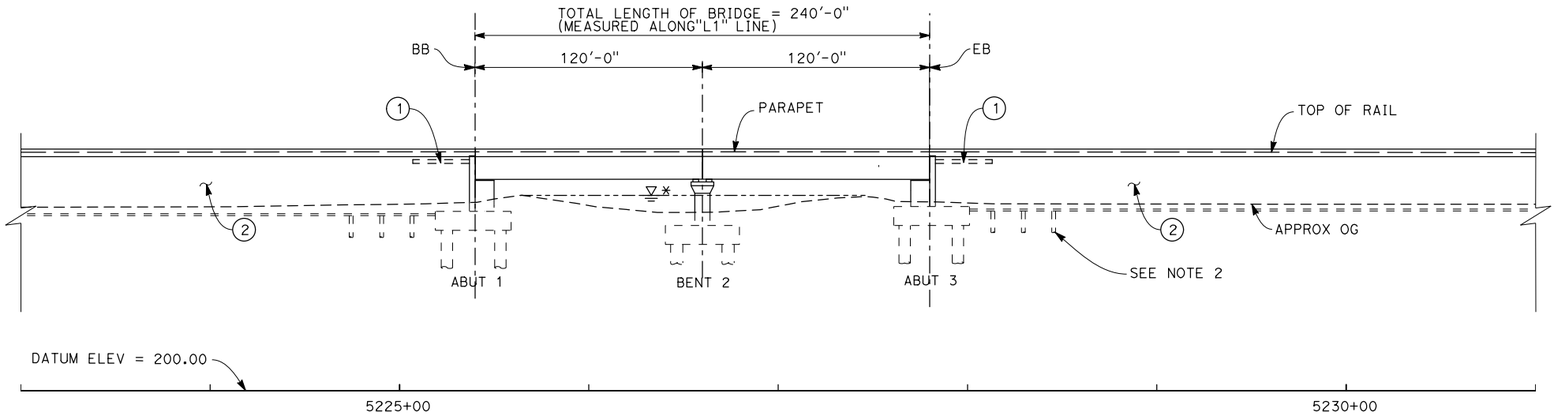
POSO CREEK SUBSECTION
ALIGNMENT L1
POSO CREEK BRIDGE
KEY MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1600
SCALE AS SHOWN
SHEET NO. 1 OF 2

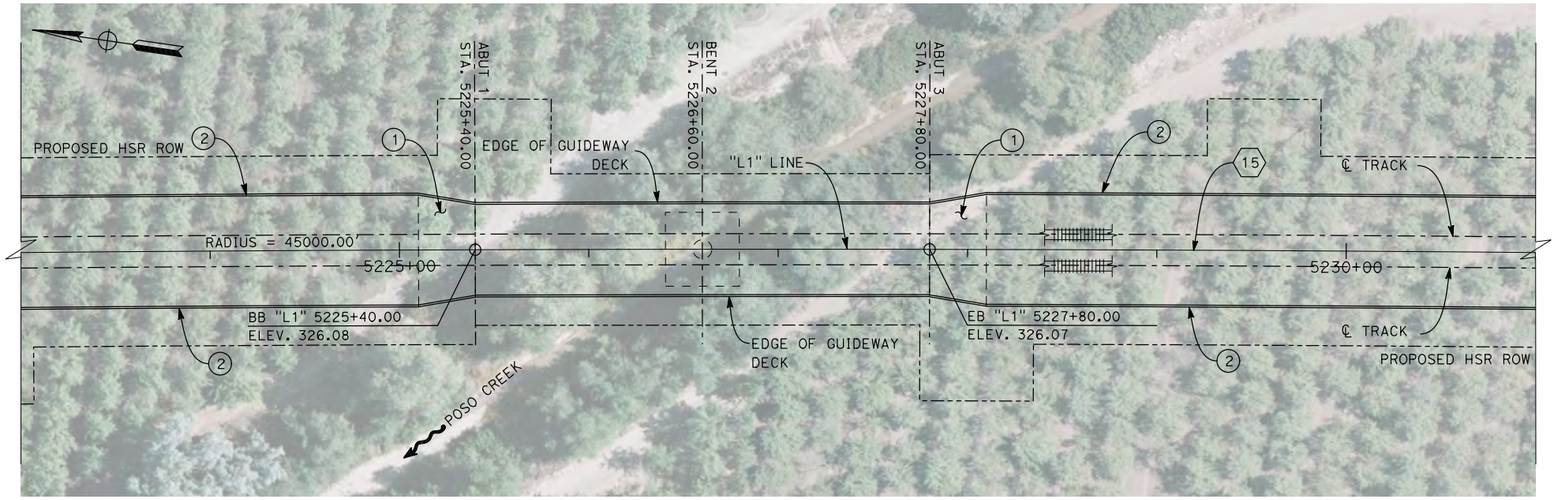
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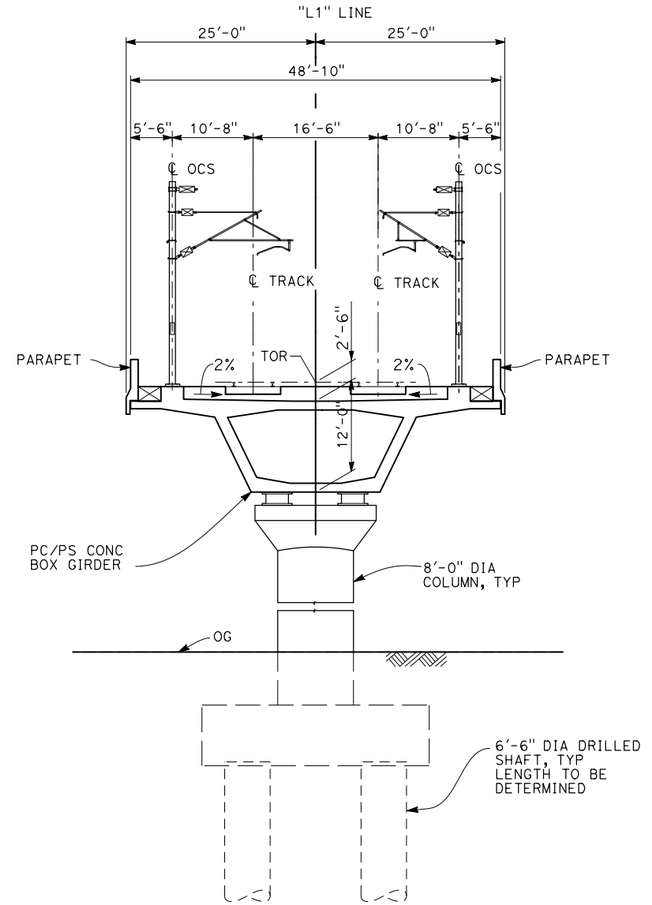

## TOP OF RAIL "L1" LINE
NO SCALE




## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'




## TYPICAL SECTION
SCALE 1" = 10'

NOTES:

1. PILE LENGTH TO BE DETERMINED
2. ALL PILES ARE NOT SHOWN

* ESTIMATED 100-YEAR FLOOD ELEVATION, "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT"

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

CURVE DATA

(15)

R = 45000.00'
Δ = 17° 49' 41.4"
T = 7058.1'
L = 14002.2'

10 0 10 20
1"=10'

40 0 40 80
1"=40'

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CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
POSO CREEK SUBSECTION
ALIGNMENT L1
POSO CREEK BRIDGE
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1601
SCALE AS SHOWN
SHEET NO. 2 OF 2

SUBSECTION L1 & L3

STATE ROUTE 46

SV1699

WASCO

KIMBERLINA RD

SHAFTER AVE

MERCED AVE

N BEECH AVE

CHERRY AVE

PROPOSED BNSF

"WS1" LINE

EXIST BNSF

SHAFTER

BURBANK ST

7TH STANDARD RD

LONE STAR SPUR
PROPOSED REALIGNMENT

LONE STAR SPUR

SANTA FE WAY

KRATZMEYER RD

REINA RD

SUBSECTION B1, B2 & B3

LEGEND

EXISTING FREIGHT RAILROAD

PROPOSED CHST

3000 0 3000 6000

1"=3000'

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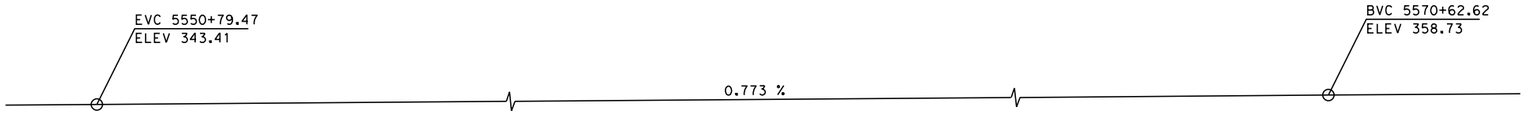
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CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STATE ROUTE 46 UNDERPASS
KEY MAP

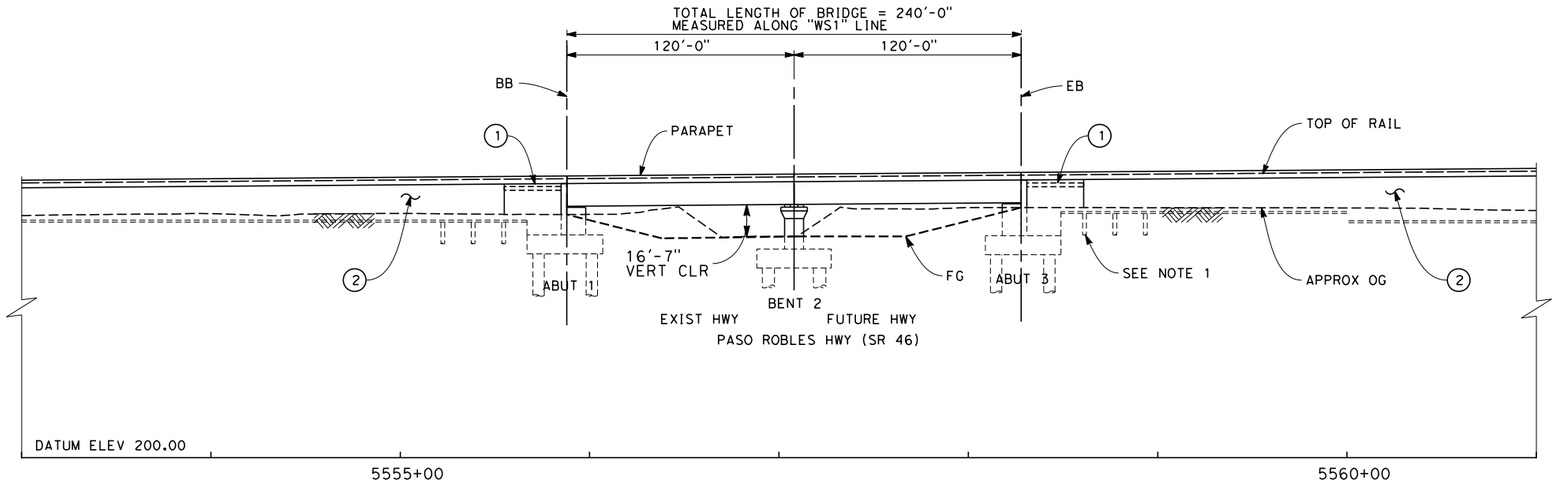
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1698
SCALE AS SHOWN
SHEET NO. 1 OF 2

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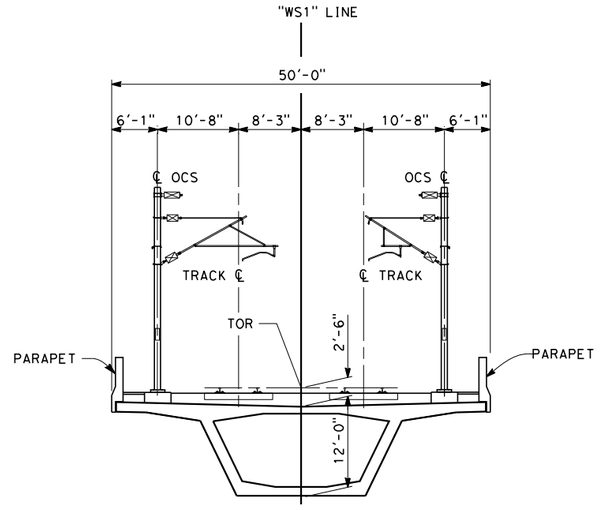

## TOP OF RAIL "WS1" LINE

NO SCALE



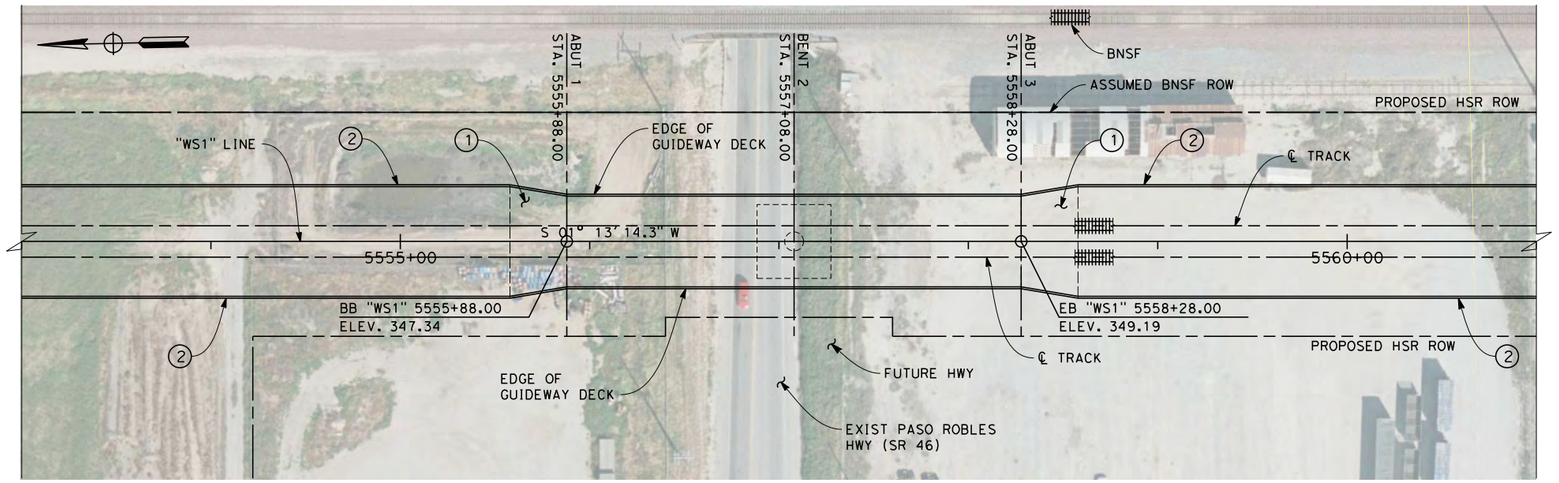

## ELEVATION

SCALE 1" = 40'




## TYPICAL SECTION

SCALE: 1" = 10'




## PLAN

SCALE 1" = 40'

NOTES:

1. ALL PILES NOT SHOWN
2. PILE LENGTH TO BE DETERMINED

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

10 0 10 20 — 1"=10'

40 0 40 80 — 1"=40'

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

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CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

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URS | HMM | ARUP
California High-Speed Train

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD

THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STATE ROUTE 46 UNDERPASS
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1699
SCALE AS SHOWN
SHEET NO. 2 OF 2

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SUBSECTION L1 & L3

STATE ROUTE 46

SV1703
SV1704
SV1705
SV1706
SV1707
SV1708
SV1709
SV1710
SV1711
SV1712
SV1713
SV1714
SV1715

WASCO

KIMBERLINA RD

SHAFTER AVE

MERCED AVE

N BEECH AVE

CHERRY AVE

PROPOSED BNSF

"WS1" LINE

EXIST BNSF

SHAFTER

BURBANK ST

LONE STAR SPUR
PROPOSED REALIGNMENT

LONE STAR SPUR

SANTA FE WAY

7TH STANDARD RD

KRATZMEYER RD

REINA RD

SUBSECTION B1, B2 & B3

LEGEND

EXISTING FREIGHT RAILROAD

PROPOSED CHST

3000 0 3000 6000

1"=3000'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY E. SUDHAUSEN
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

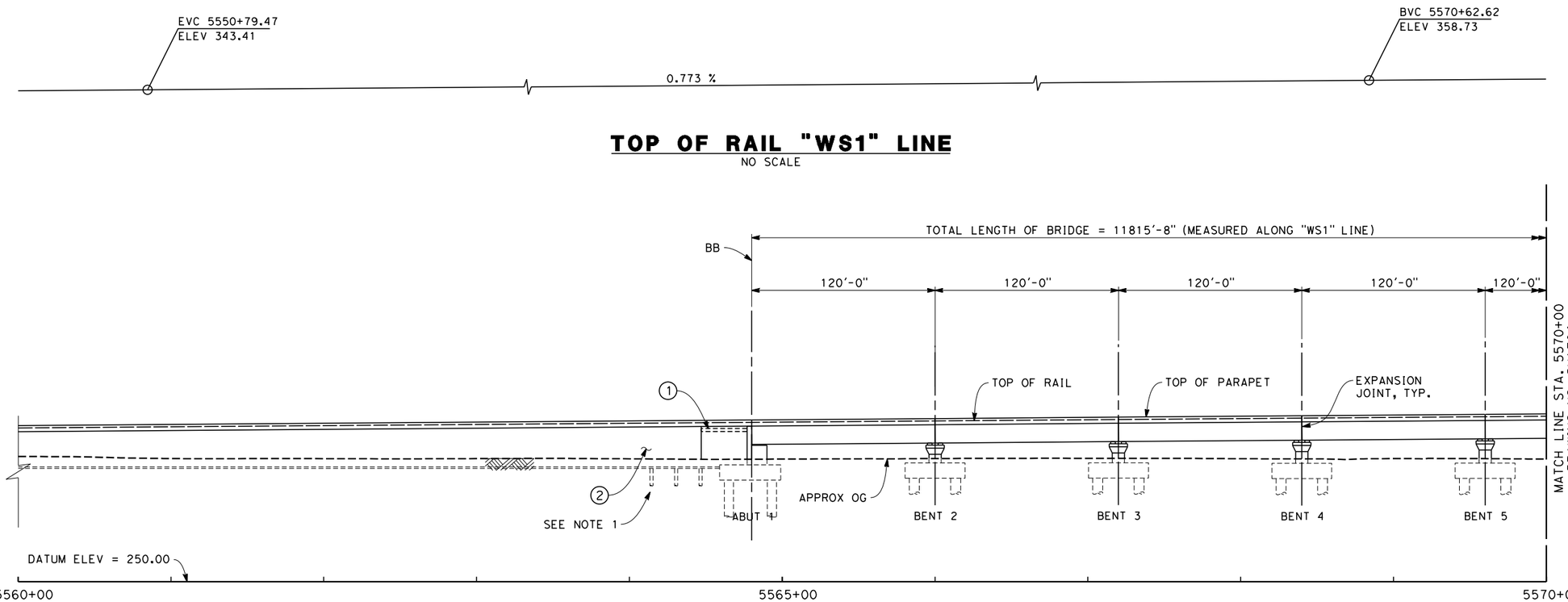
**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
KEY MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1700
SCALE AS SHOWN
SHEET NO. 1 OF 15

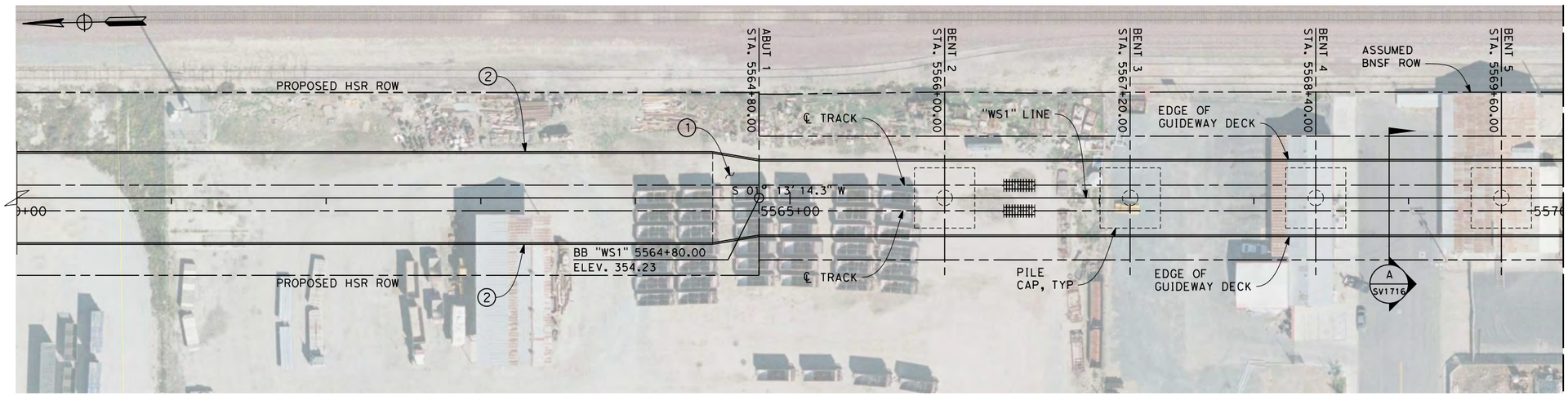



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

① STRUCTURE APPROACH SLAB

② RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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DATE 12/31/13

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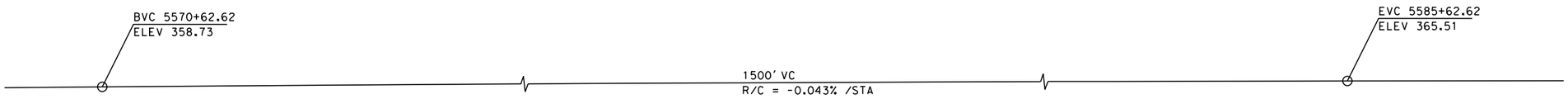
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

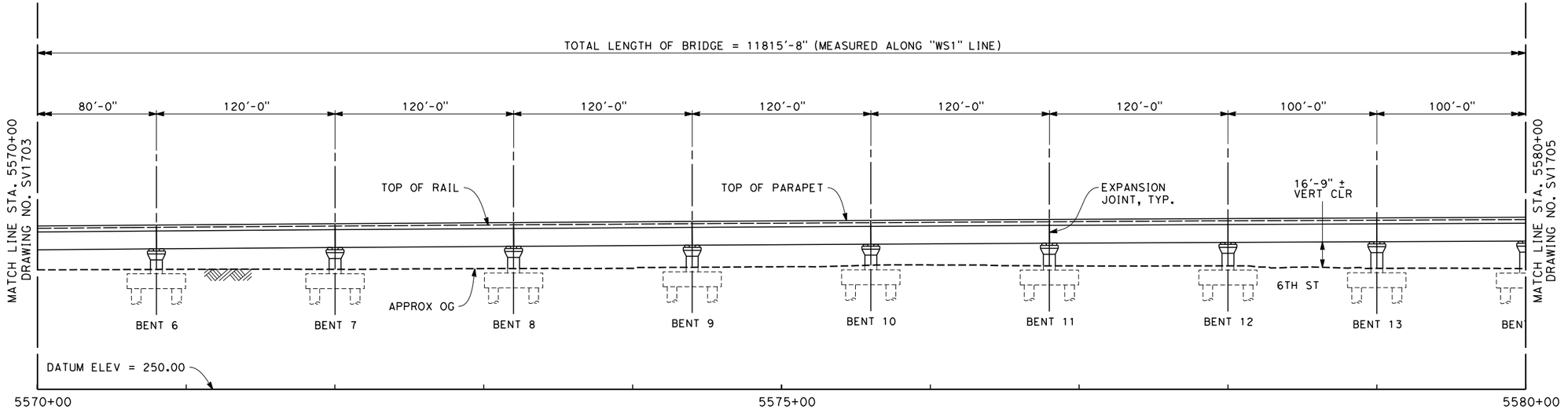
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1703
SCALE AS SHOWN
SHEET NO. 2 OF 15

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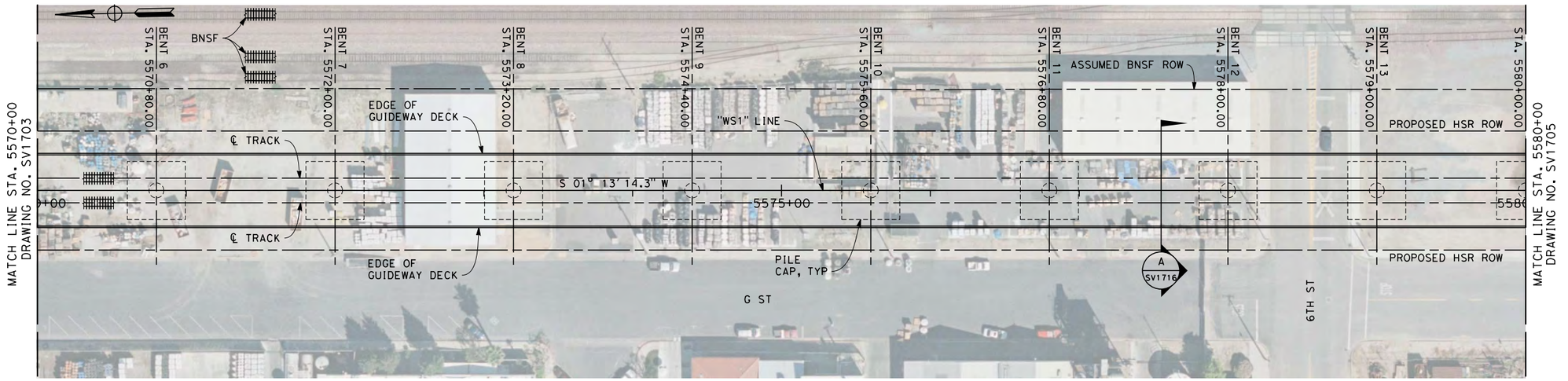

## TOP OF RAIL "WS1" LINE

NO SCALE




## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

① STRUCTURE APPROACH SLAB

② RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

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DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

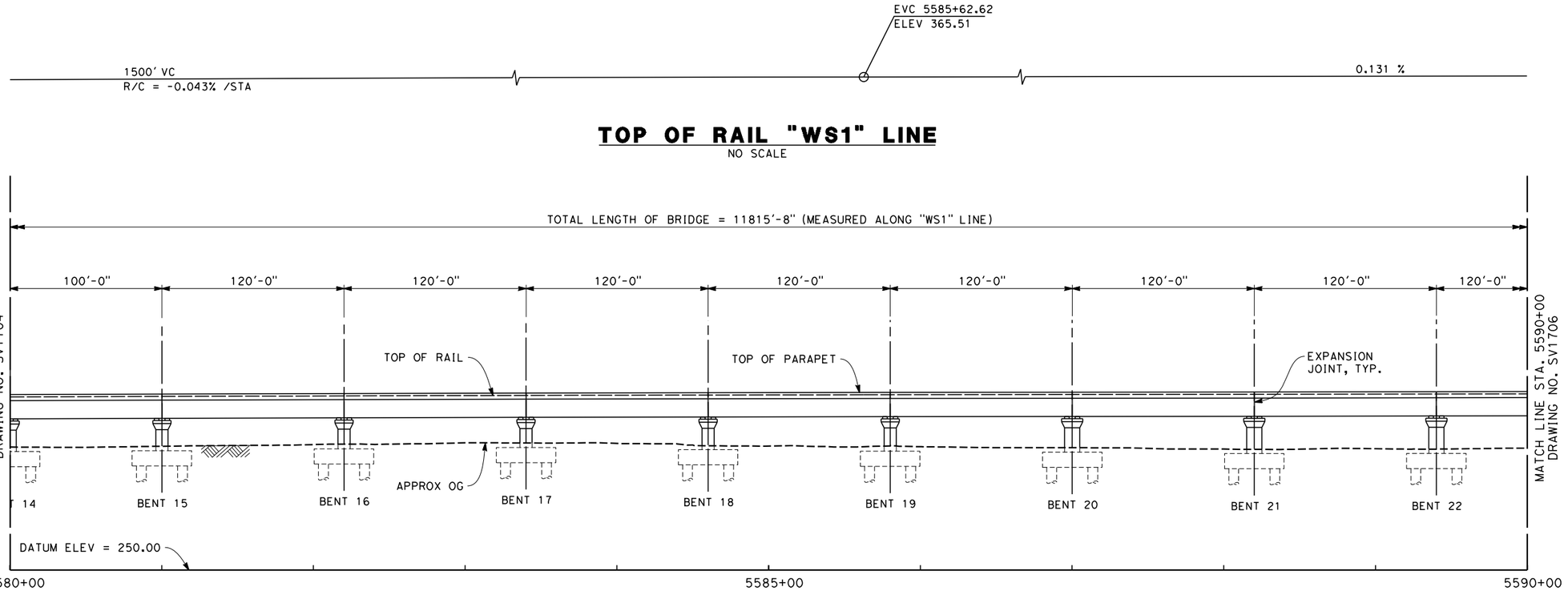
URS | HMM | ARUP
California High-Speed Train

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

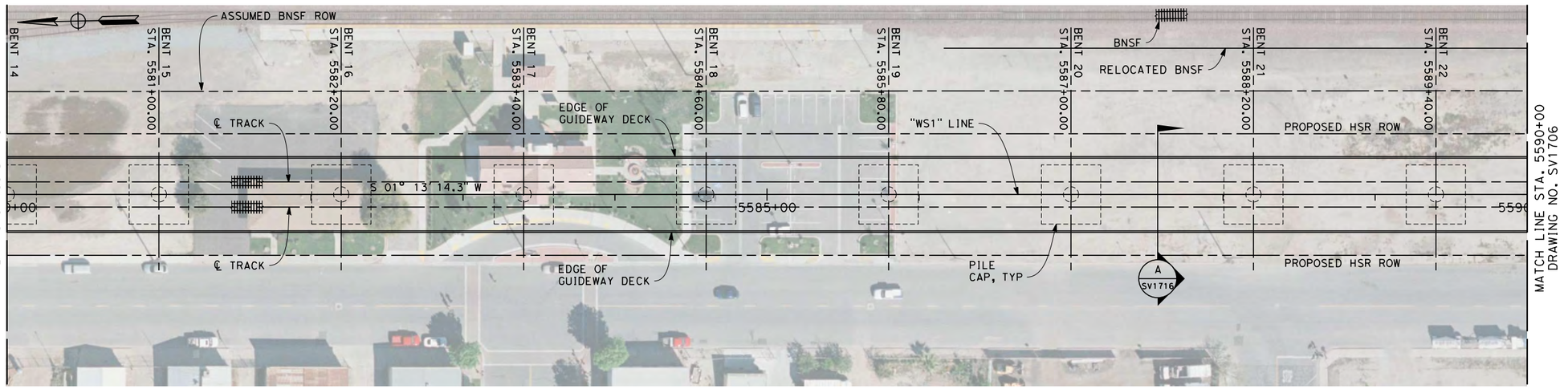
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1704
SCALE AS SHOWN
SHEET NO. 3 OF 15

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## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:
1. STRUCTURE APPROACH SLAB
2. RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

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|---|---|---|---|---|---|

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DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

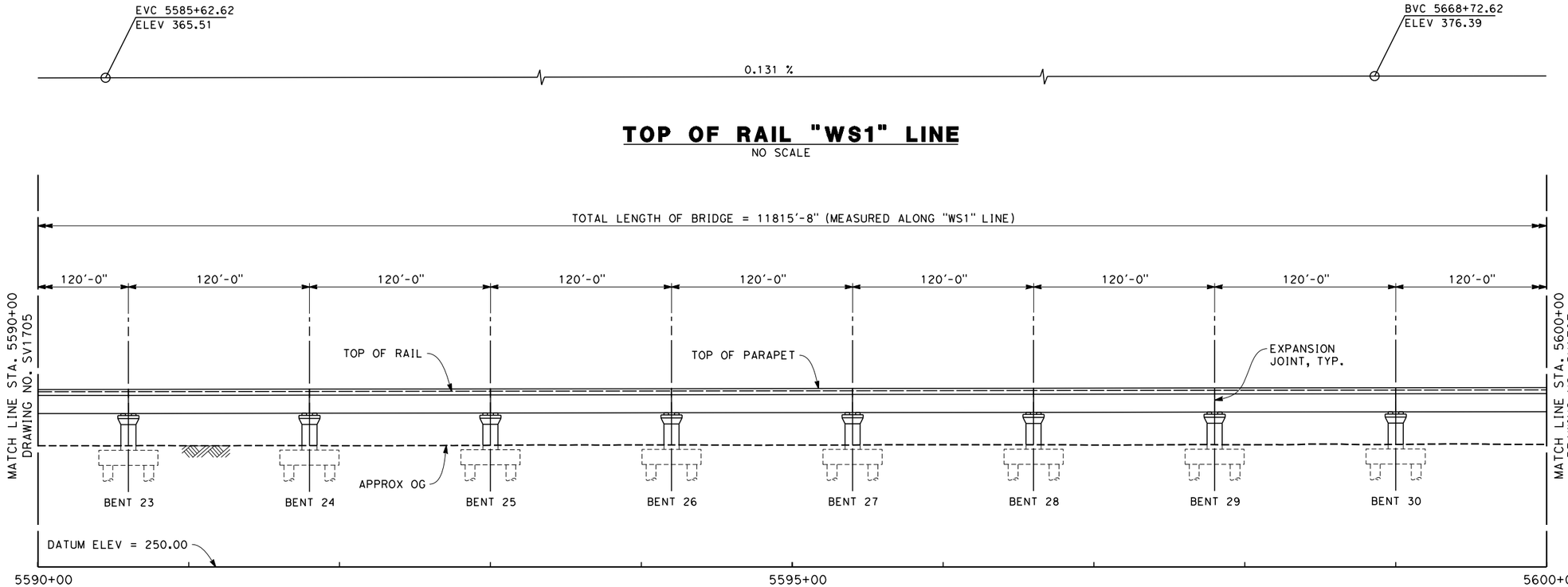
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1705
SCALE AS SHOWN
SHEET NO. 4 OF 15

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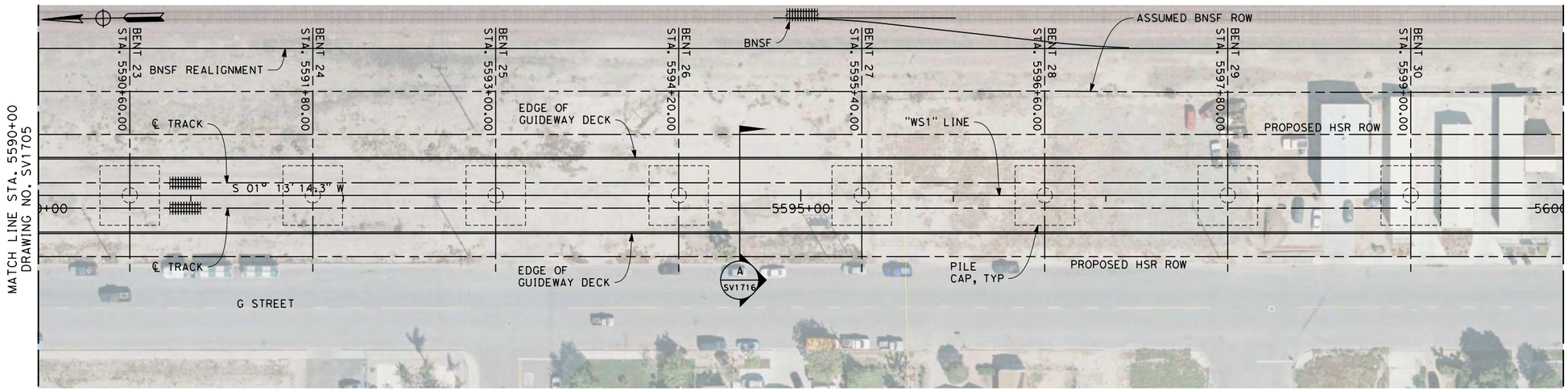



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

### NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
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5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

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DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

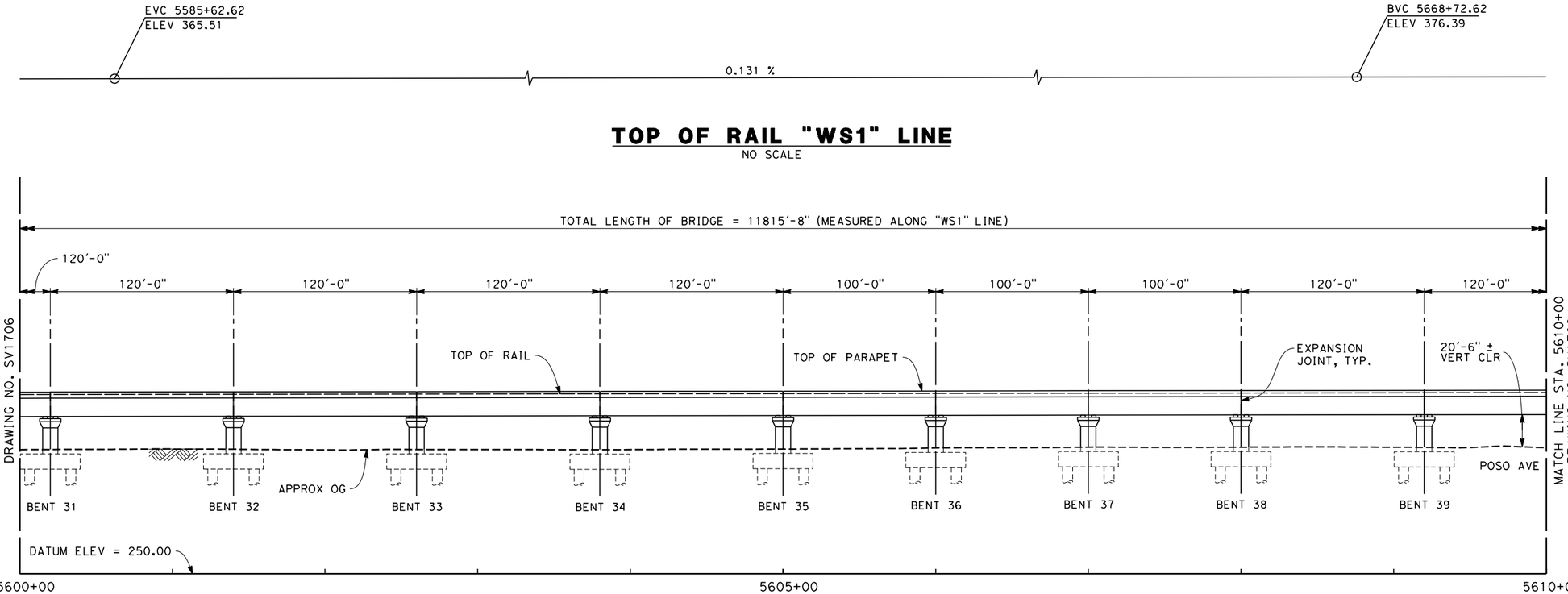
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

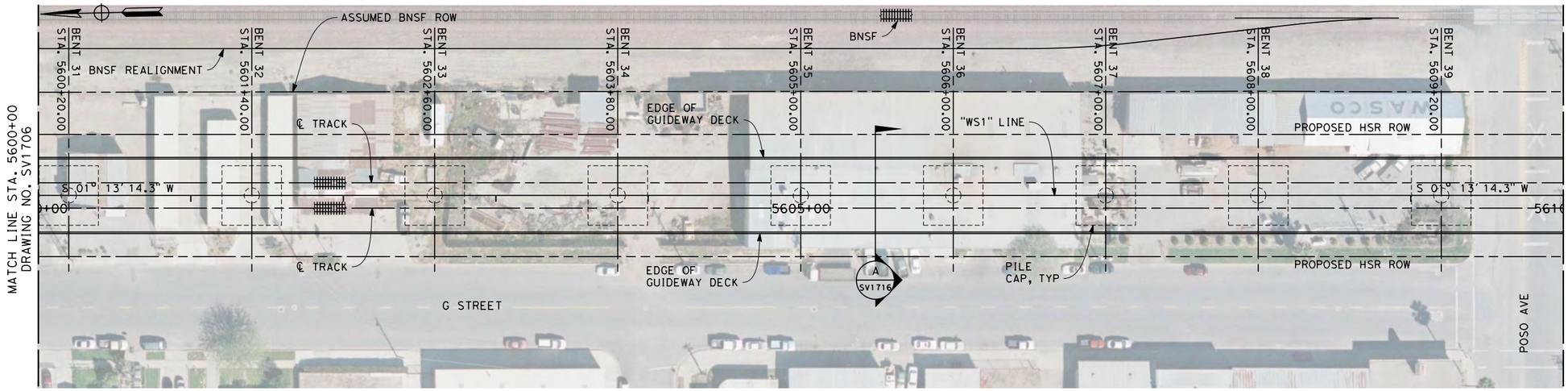
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1706
SCALE AS SHOWN
SHEET NO. 5 OF 15

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## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:
1. STRUCTURE APPROACH SLAB
2. RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

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CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

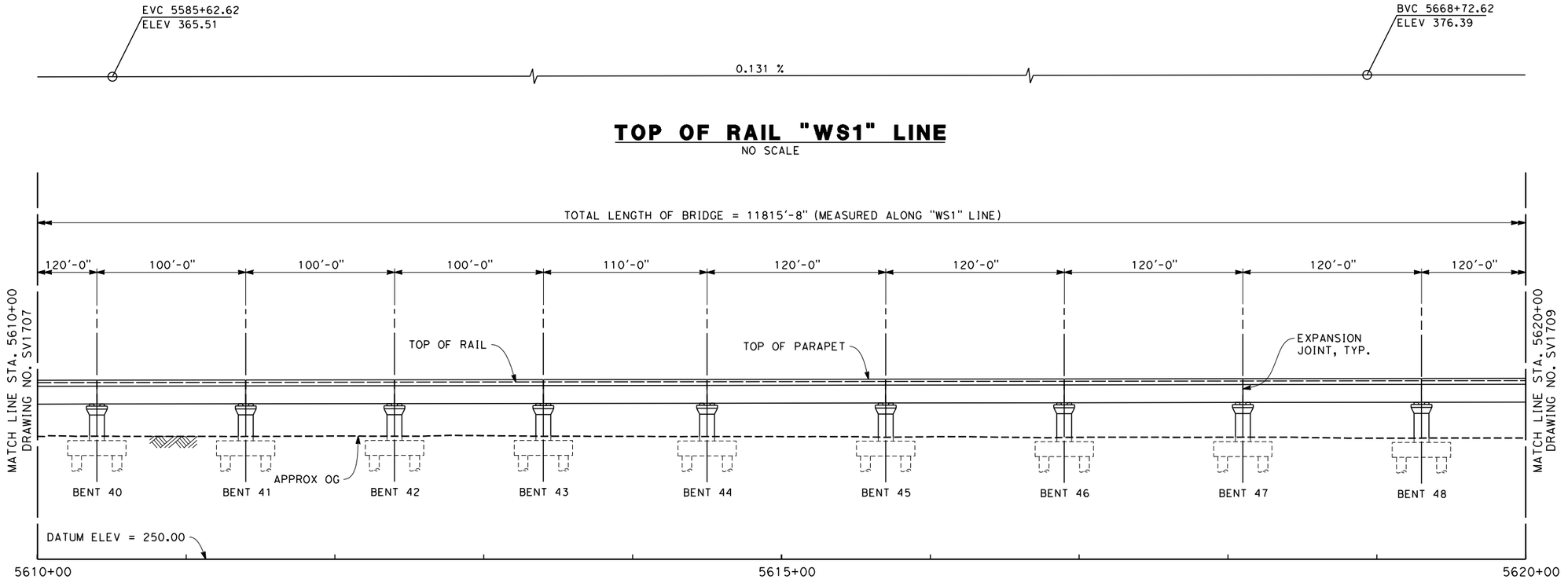
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1707
SCALE AS SHOWN
SHEET NO. 6 OF 15

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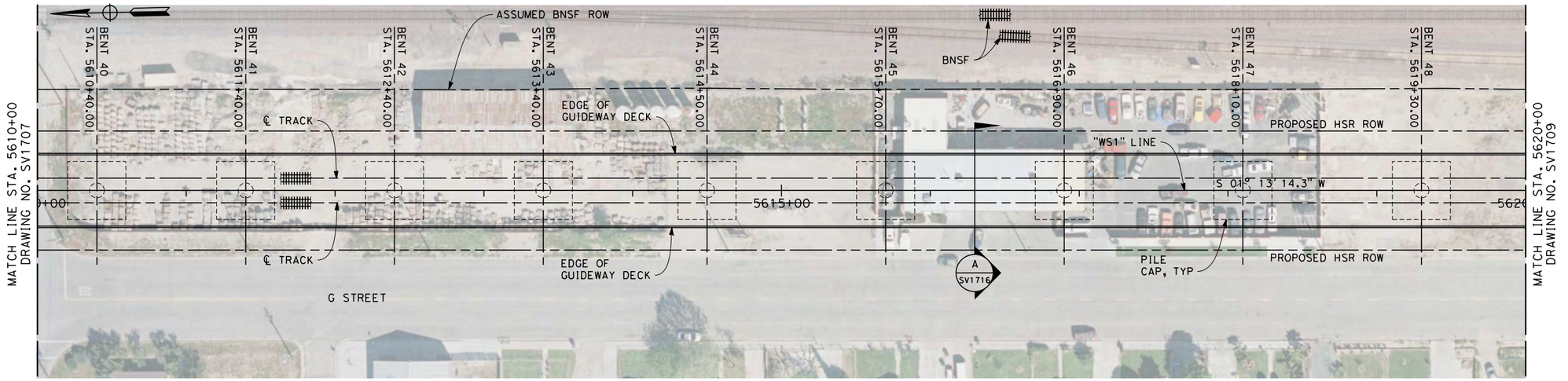



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
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LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80

1"=40'

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CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

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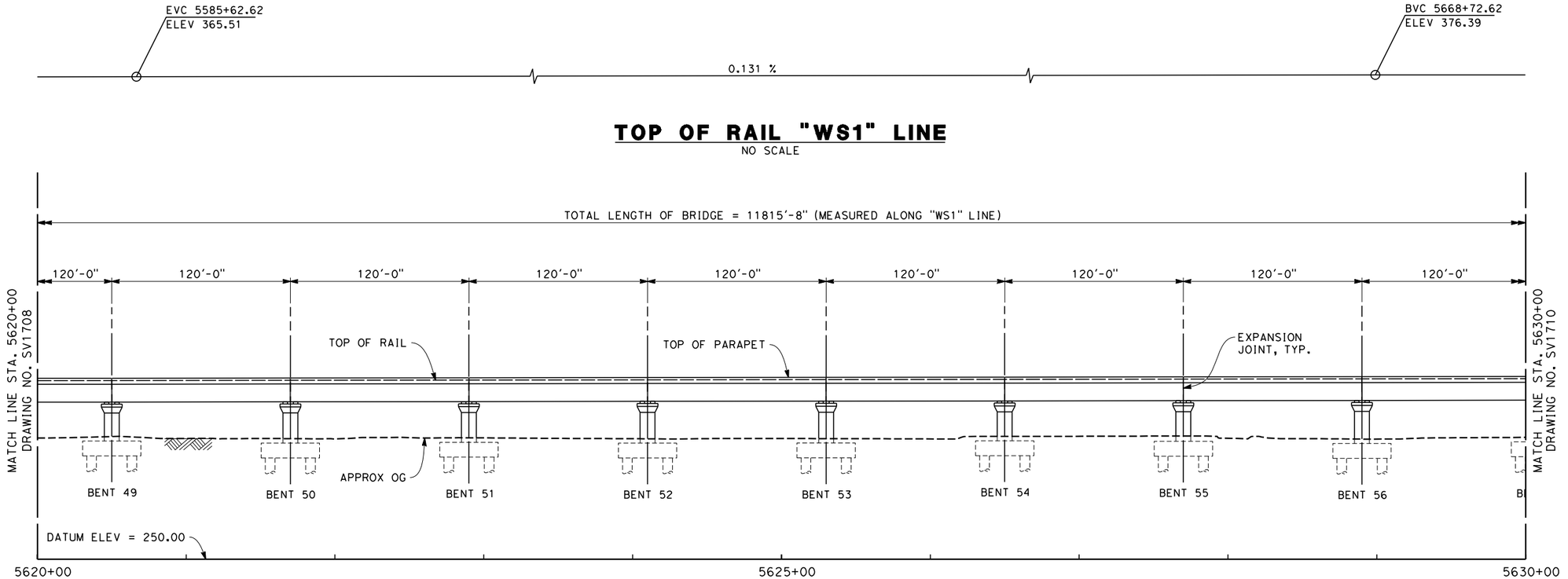
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

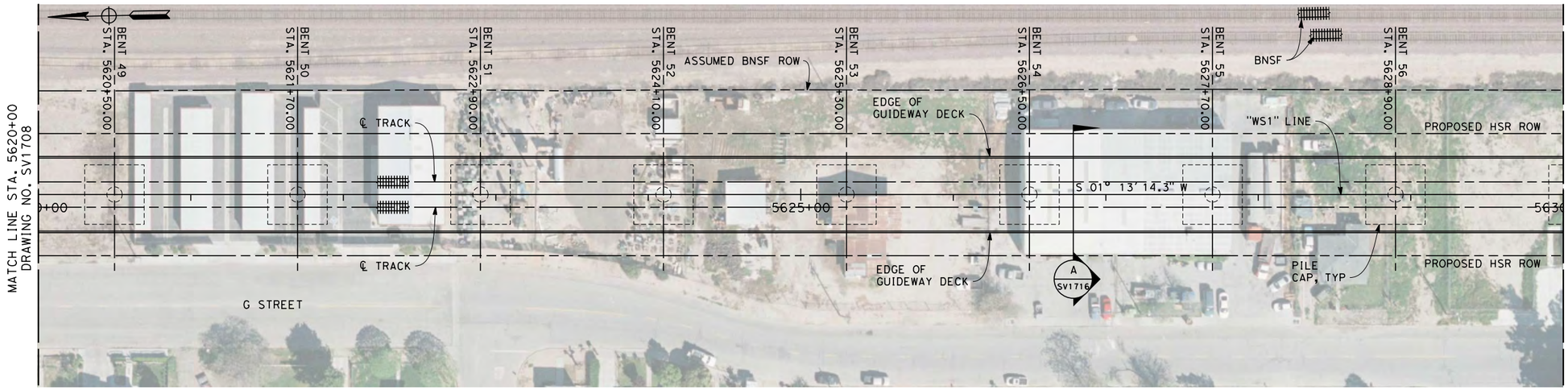
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1708
SCALE AS SHOWN
SHEET NO. 7 OF 15

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## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
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LEGEND:
1. STRUCTURE APPROACH SLAB
2. RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

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IN CHARGE R. COFFIN
DATE 12/31/13

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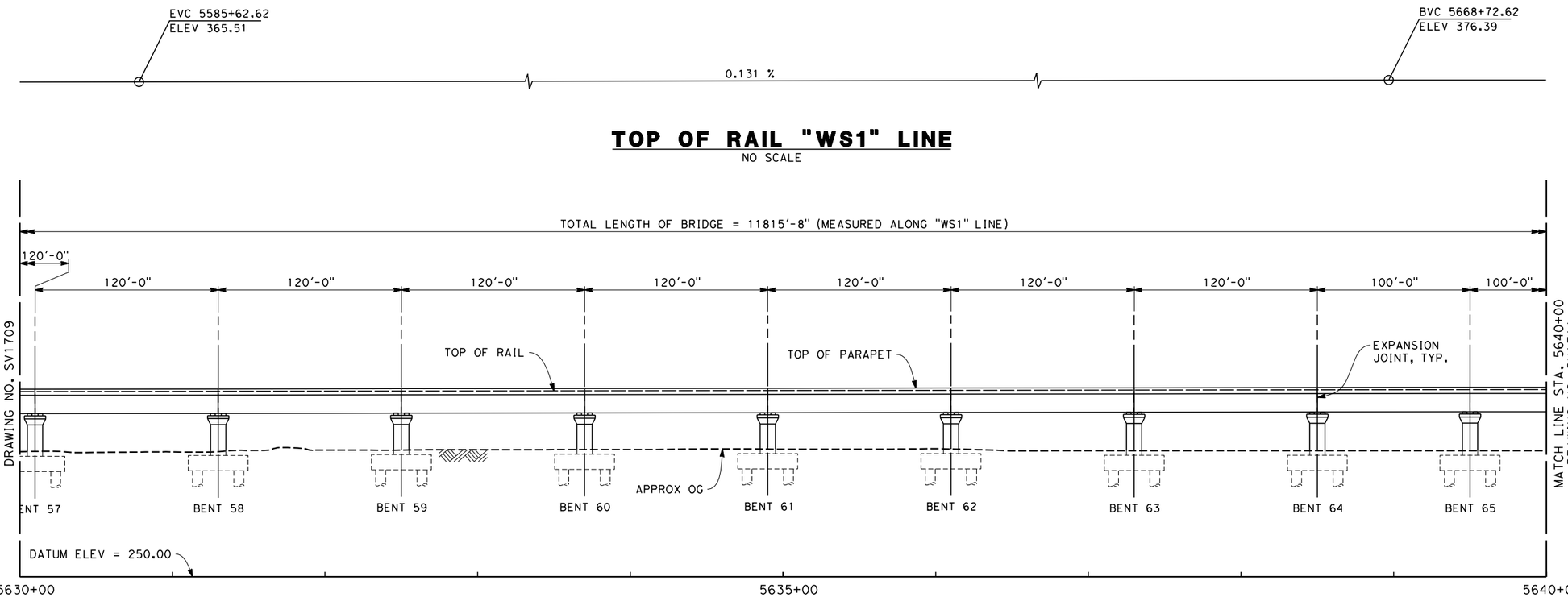
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

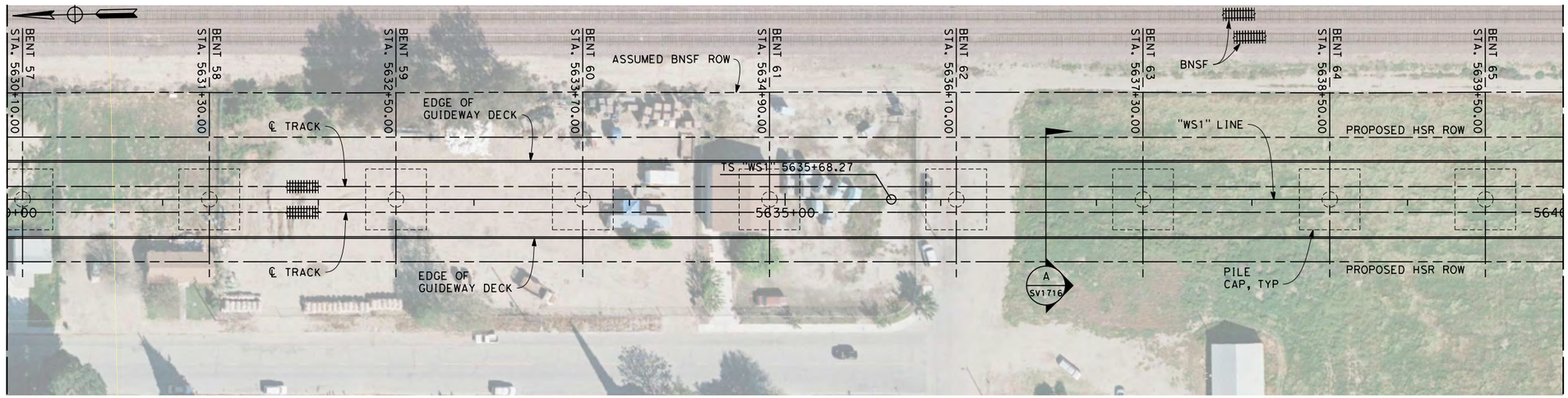
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1709
SCALE AS SHOWN
SHEET NO. 8 OF 15

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## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
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LEGEND:
1. STRUCTURE APPROACH SLAB
2. RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

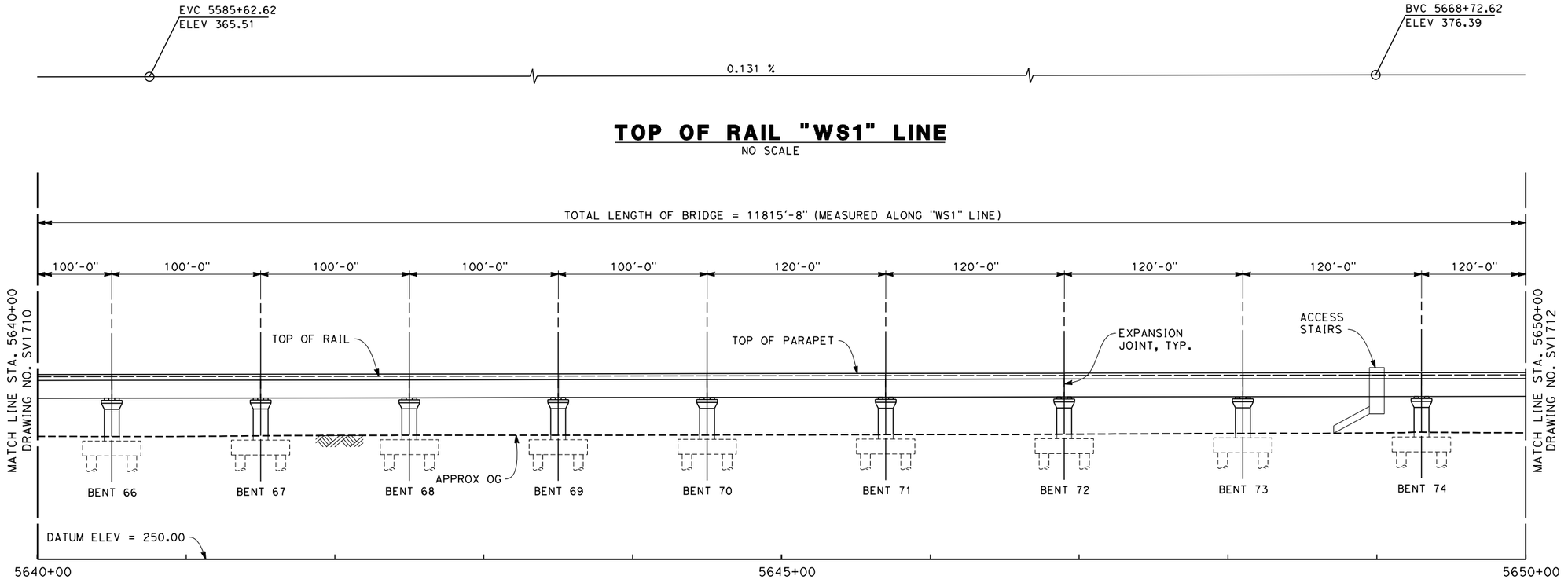
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

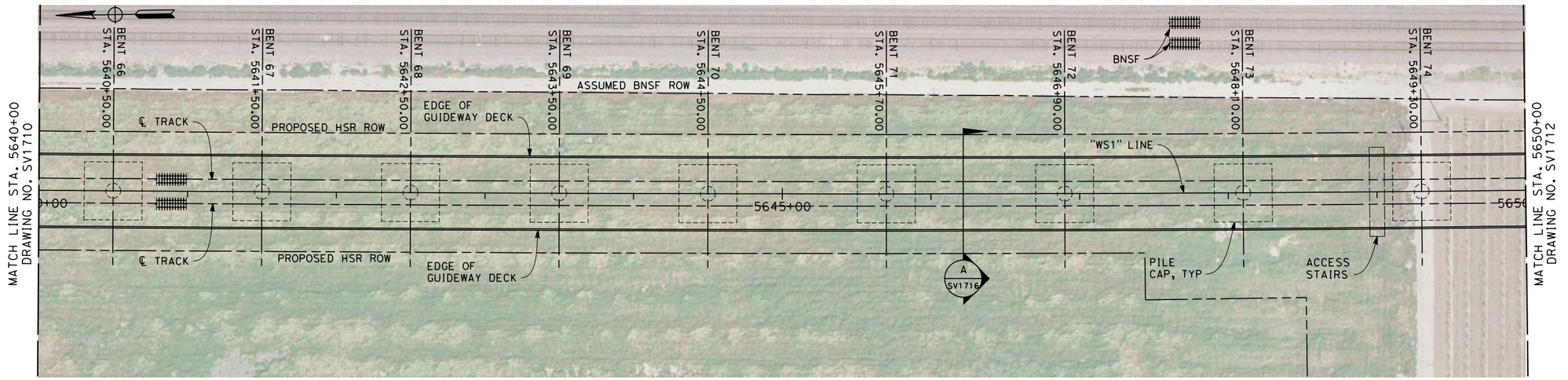
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1710
SCALE AS SHOWN
SHEET NO. 9 OF 15

Nadine.Hutton 12/12/2013 7:09:22 PM c:\pwworking\hmm\external\nadine.hutton-arup.com\dms86726\FB-SV-1710-WS1.dgn




## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:
(1) STRUCTURE APPROACH SLAB
(2) RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

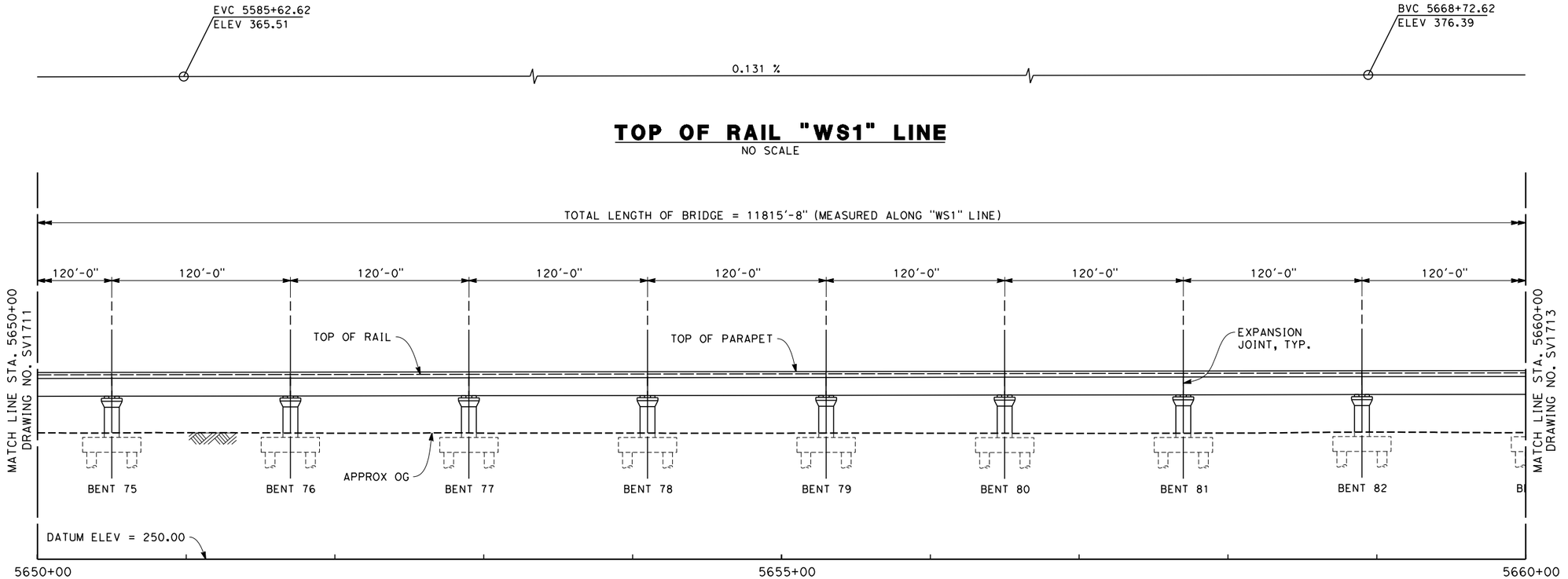
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

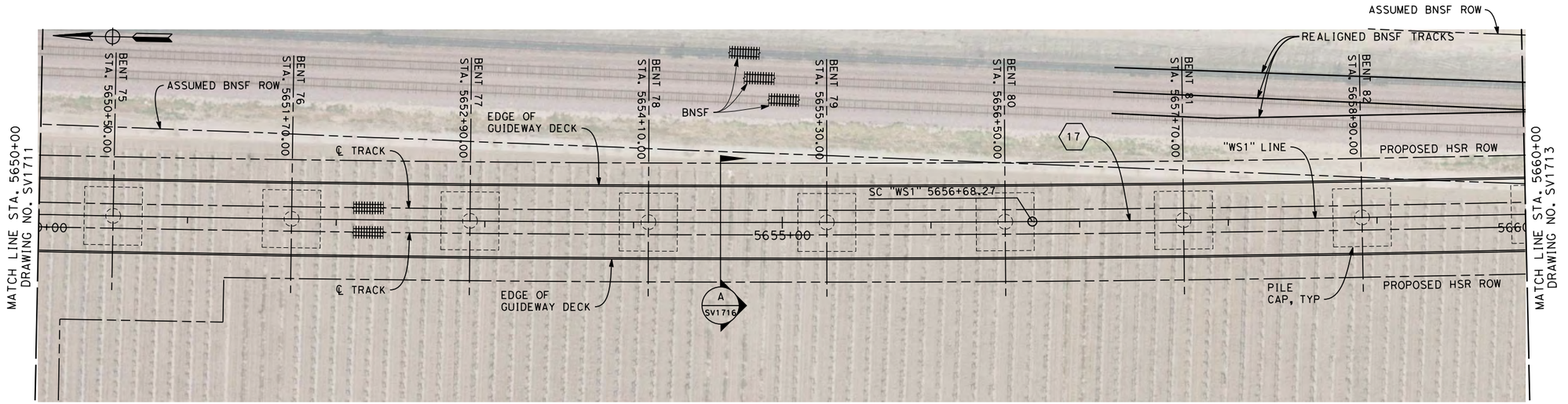
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1711
SCALE AS SHOWN
SHEET NO. 10 OF 15

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## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:
(1) STRUCTURE APPROACH SLAB
(2) RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA
17
R = 22000
Δ = 40°02'15"
T = 8016
L = 15373

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

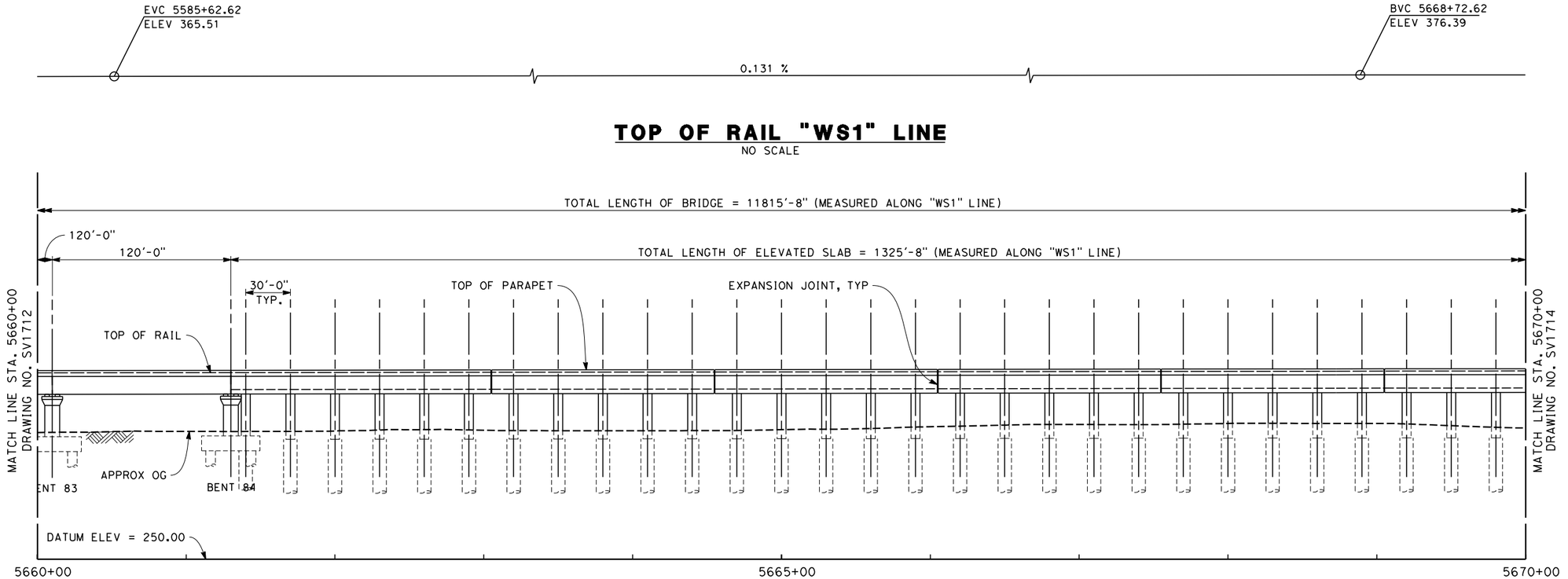
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1712
SCALE AS SHOWN
SHEET NO. 11 OF 15

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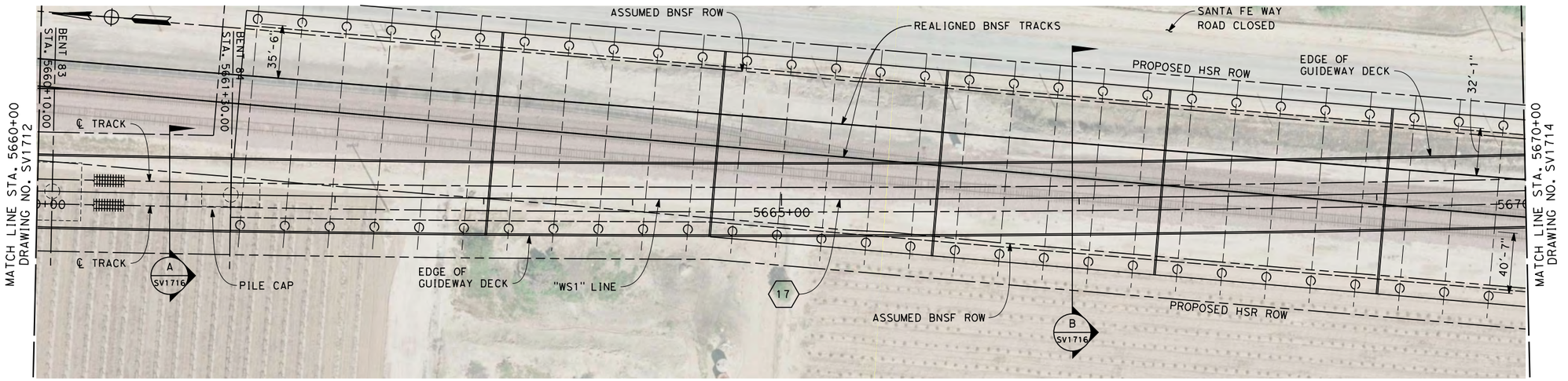



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

### NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

17

R = 22000
Δ = 40°02'15"
T = 8016
L = 15373

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

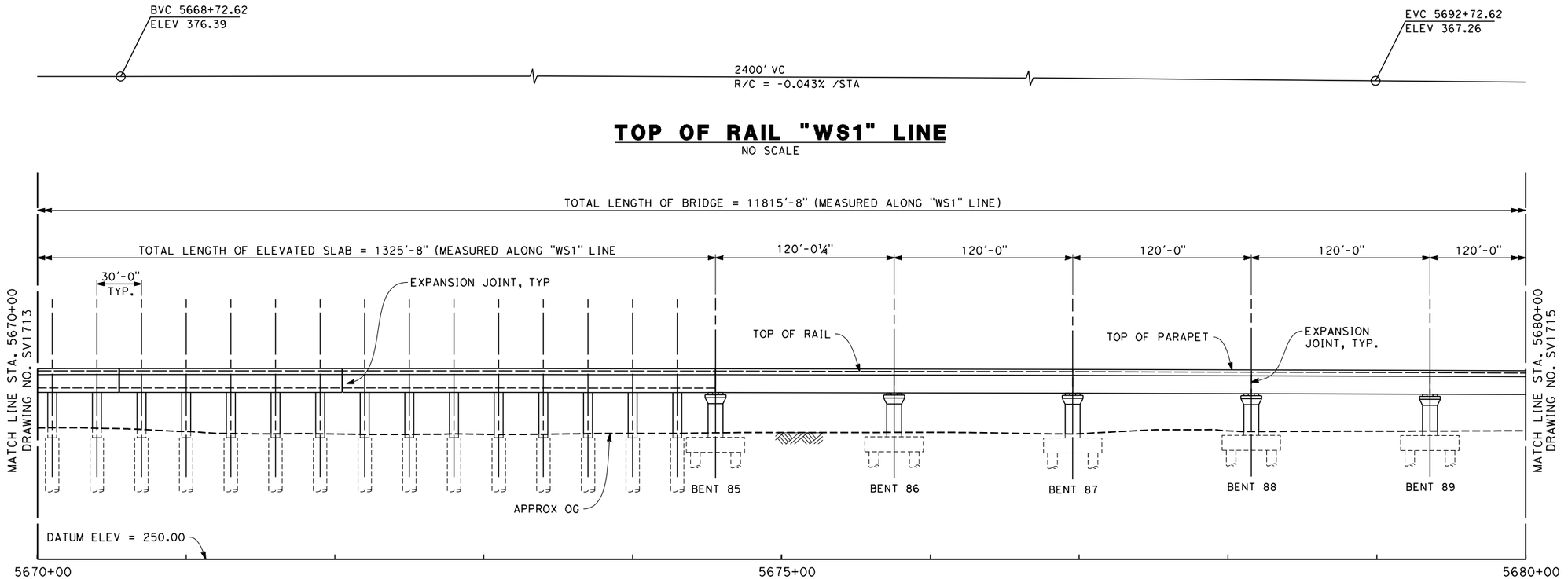
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1713
SCALE AS SHOWN
SHEET NO. 12 OF 15

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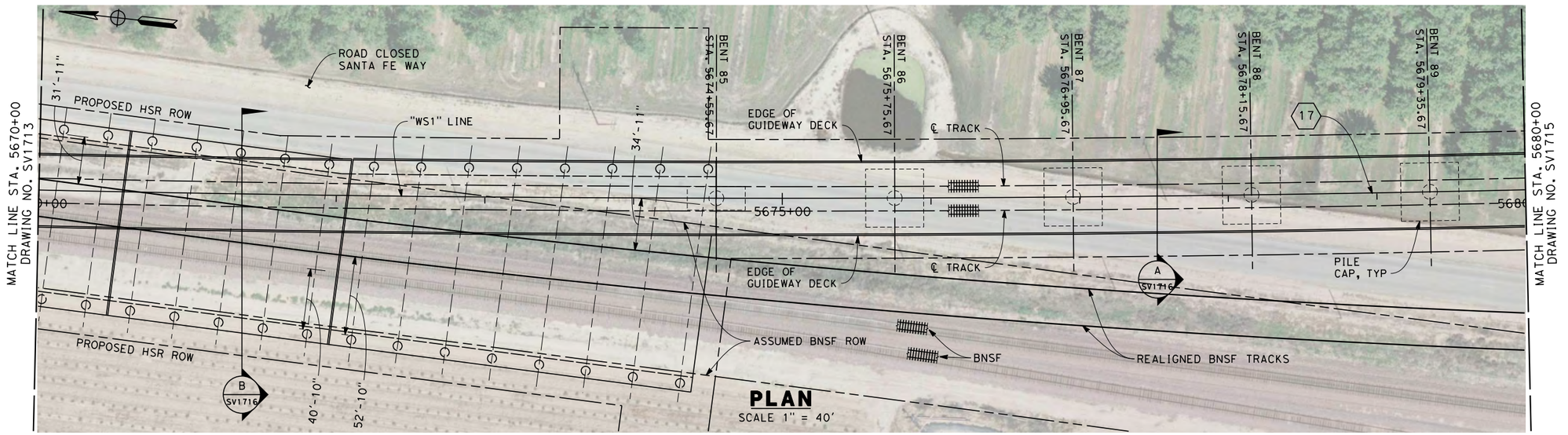



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

### NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

17

R = 22000
Δ = 40°02'15"
T = 8016
L = 15373

40 0 40 80
1"=40'

**RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015**

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

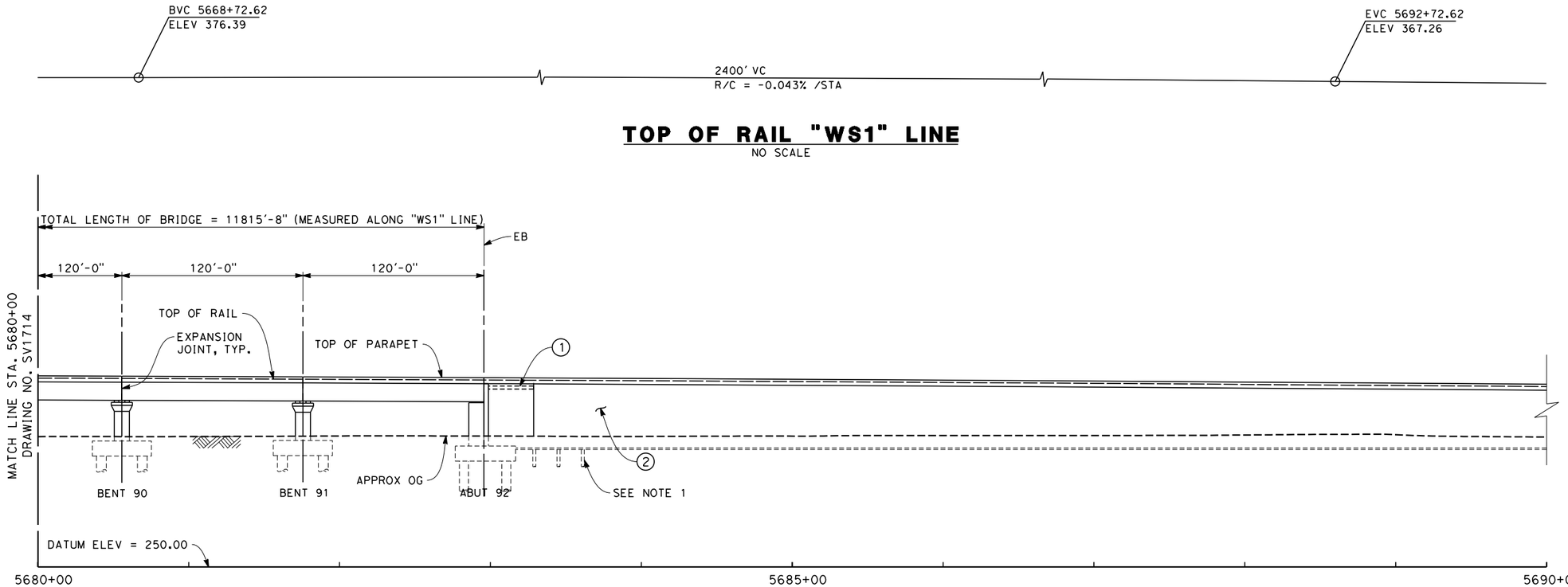
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1714
SCALE AS SHOWN
SHEET NO. 13 OF 15

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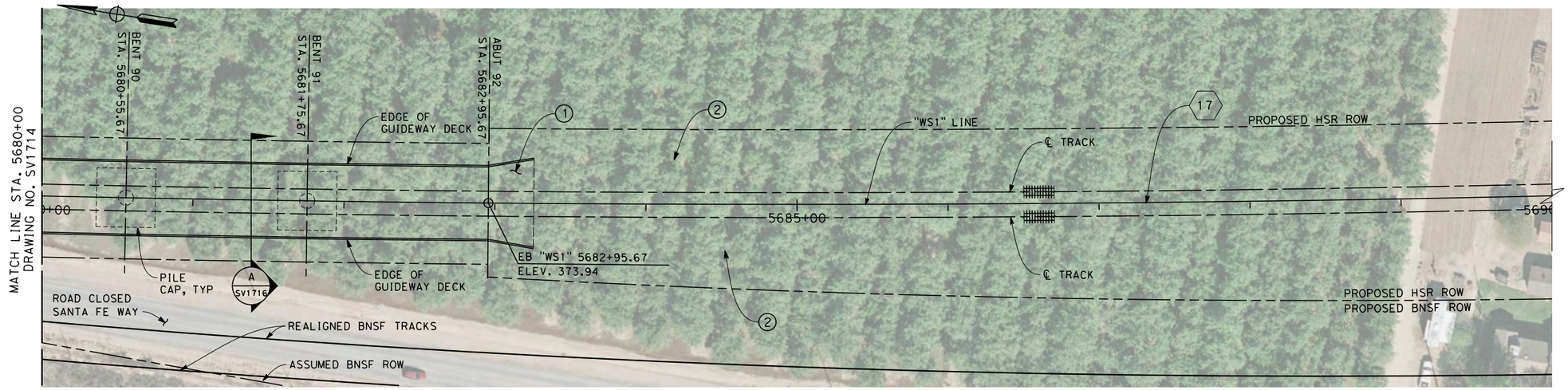



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
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LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

17

R = 22000
Δ = 40°02'15"
T = 8016
L = 15373

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

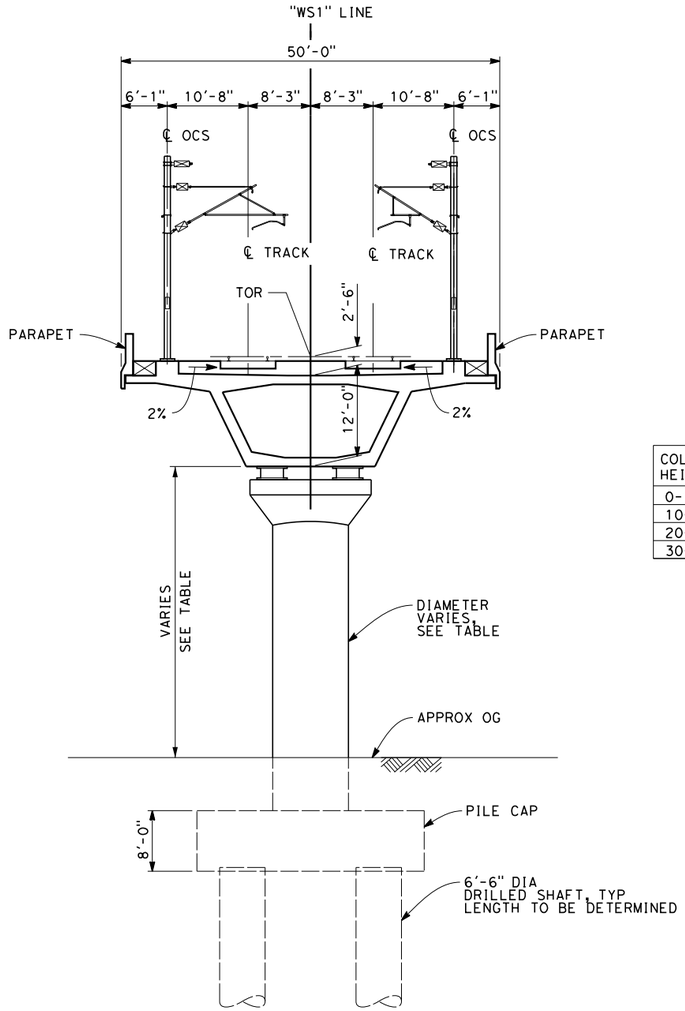
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1715
SCALE AS SHOWN
SHEET NO. 14 OF 15

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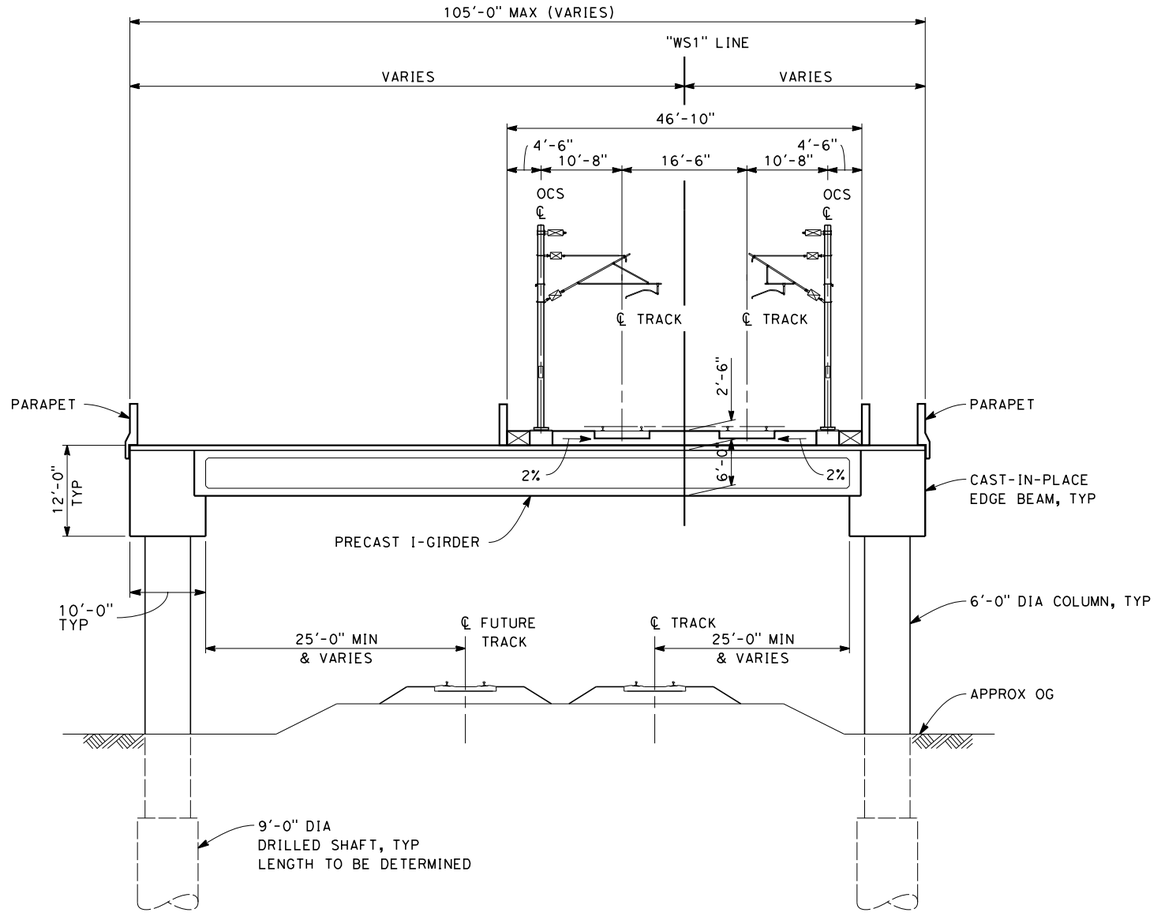



| COLUMN HEIGHT | COLUMN DIA. |
|---|---|
| 0-10' | 8' |
| 10-20' | 8' |
| 20-30' | 10' |
| 30-40' | 10' |

## SECTION A

SCALE: 1" = 10'

STA 5564+80 THROUGH 5661+30
STA 5674+56 THROUGH 5682+96




## SECTION B

SCALE: 1" = 10'

STA 5661+30 THROUGH 5674+56

10 0 10 20
1"-10'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY Y. REN
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
WASCO VIADUCT
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1716
SCALE AS SHOWN
SHEET NO. 15 OF 15

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SUBSECTION L1 & L3

STATE ROUTE 46

WASCO

KIMBERLINA RD

SHAFTER AVE

MERCED AVE

N BEECH AVE

CHERRY AVE

SV1721

SV1722

"WS1" LINE

PROPOSED BNSF

EXIST BNSF

SHAFTER

BURBANK ST

7TH STANDARD RD

LONE STAR SPUR
PROPOSED REALIGNMENT

LONE STAR SPUR

SANTA FE WAY

KRATZMEYER RD

REINA RD

SUBSECTION B1, B2 & B3

LEGEND

EXISTING FREIGHT RAILROAD

PROPOSED CHST

3000 0 3000 6000

1"=3000'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY E. SUDHAUSEN
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

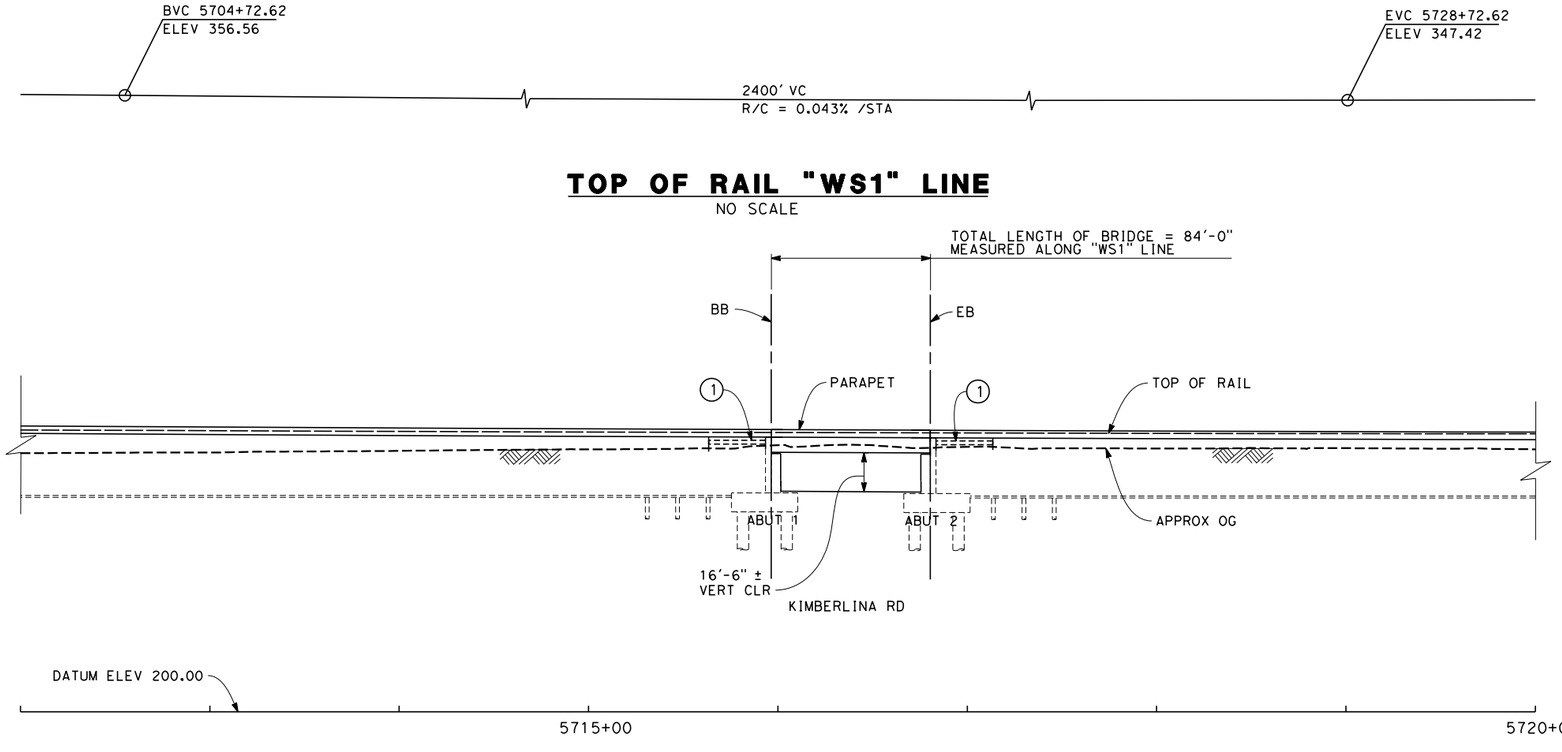
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
KIMBERLINA ROAD UNDERPASS
KEY MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1720
SCALE AS SHOWN
SHEET NO. 1 OF 3

jojo.valenzuela 12/30/2013 1:44:49 PM c:\pwworking\hmm\external\jojo.valenzuela-arup.com\dms86726\FB-SV-1720-WS1.dgn

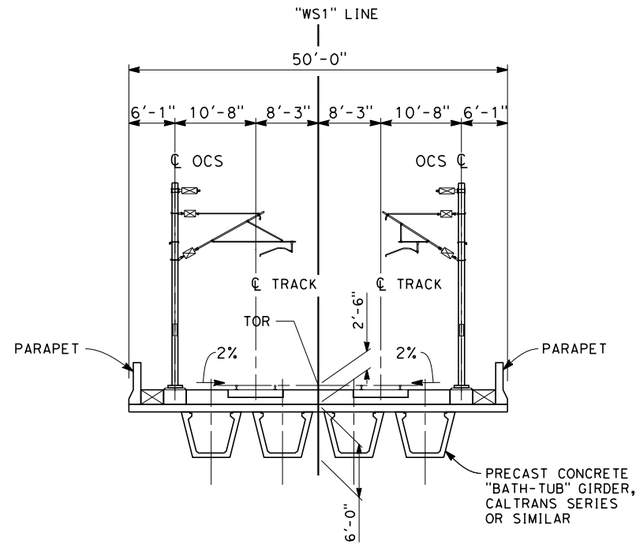



## TOP OF RAIL "WS1" LINE

NO SCALE

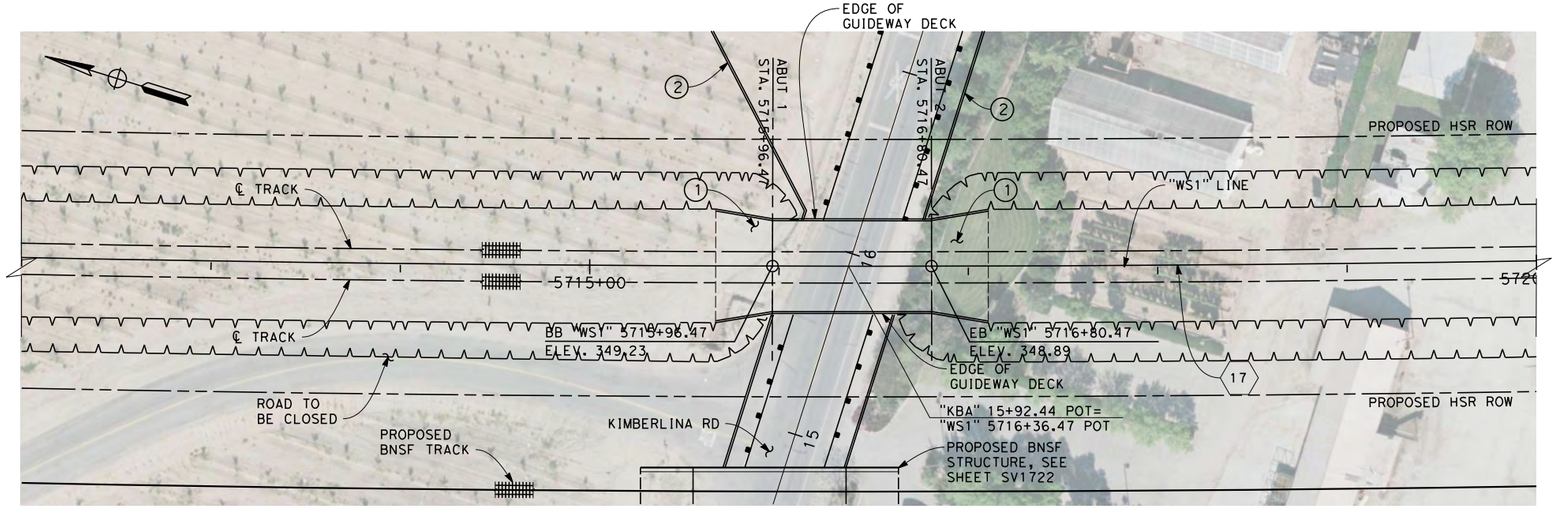
## ELEVATION

SCALE 1" = 40'




## TYPICAL SECTION

SCALE: 1" = 10'




## PLAN

SCALE 1" = 40'

CURVE DATA

17

R = 22000.00'

Δ = 40° 02' 15.1"

T = 8015.5'

L = 15373.3'

NOTES:

1. ALL PILES NOT SHOWN
2. PILE LENGTH TO BE DETERMINED

LEGEND:

1. STRUCTURE APPROACH SLAB
2. RETAINING WALL

10 0 10 20 — 1"=10'

40 0 40 80 — 1"=40'

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY M. FISHER
DRAWN BY J. VALENZUELA
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

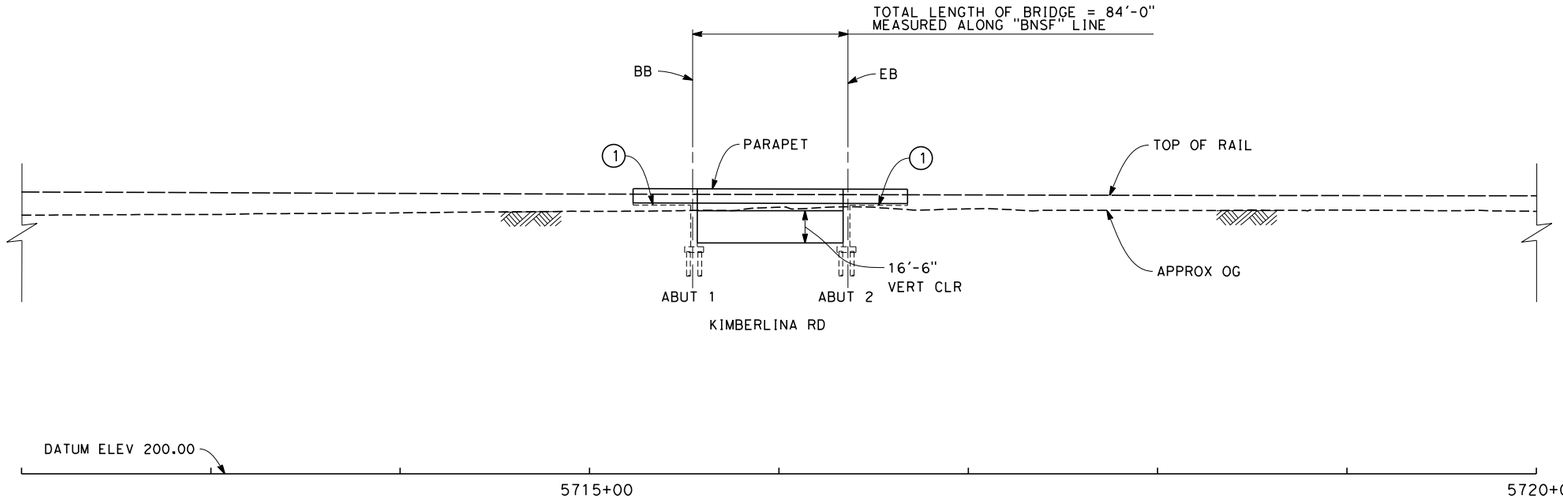
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
KIMBERLINA ROAD UNDERPASS
PLAN AND ELEVATION

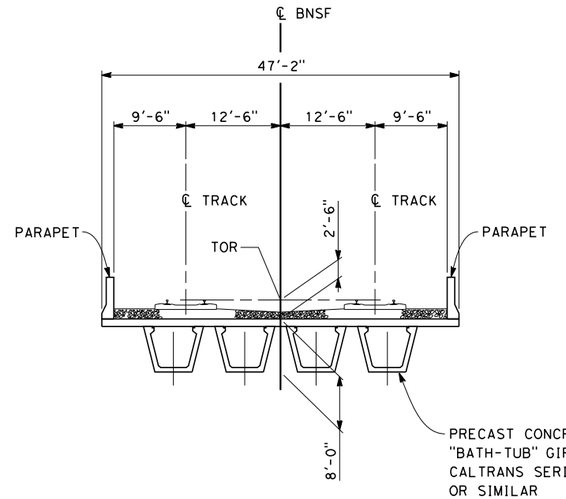
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1721
SCALE AS SHOWN
SHEET NO. 2 OF 3

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

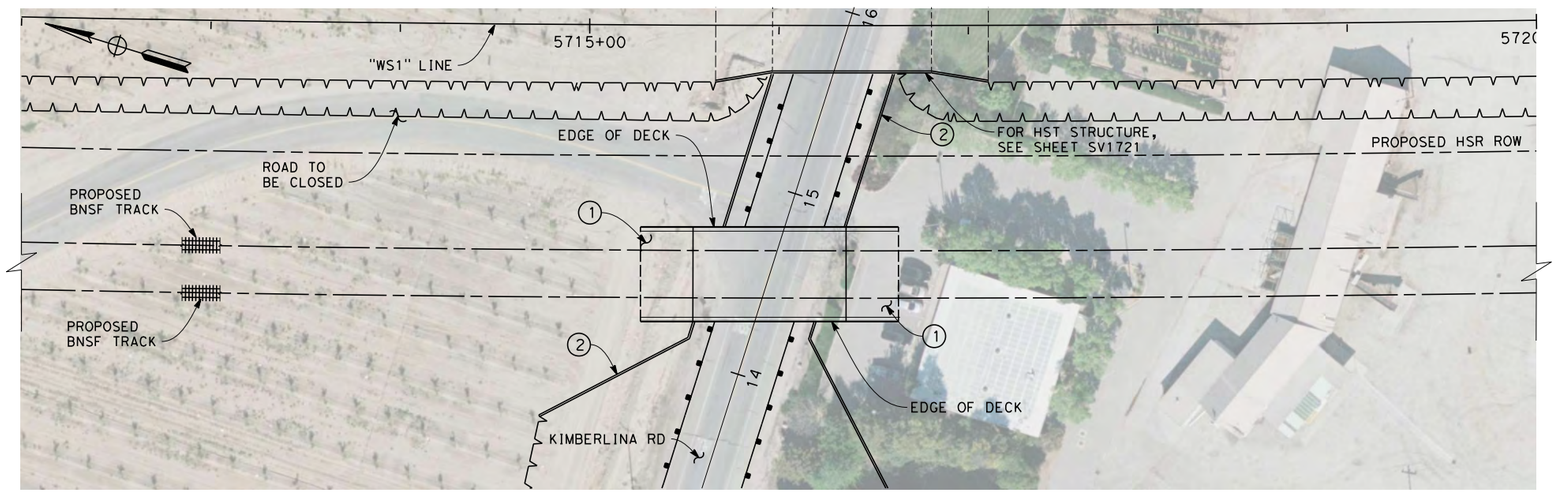
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## ELEVATION
SCALE 1" = 40'




## TYPICAL SECTION
SCALE: 1" = 10'




## PLAN
SCALE 1" = 40'

NOTES:

1. ALL PILES NOT SHOWN
2. PILE LENGTH TO BE DETERMINED

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

10 0 10 20 — 1"=10'

40 0 40 80 — 1"=40'

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY M. FISHER
DRAWN BY J. VALENZUELA
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
KIMBERLINA ROAD BNSF UNDERPASS
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1722
SCALE AS SHOWN
SHEET NO. 3 OF 3

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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SUBSECTION L1 & L3

WASCO

STATE ROUTE 46

KIMBERLINA RD

SHAFTER AVE

MERCED AVE

N BEECH AVE

CHERRY AVE

PROPOSED BNSF

"WS1" LINE

EXIST BNSF

SV1756 SV1757 SV1758 SV1759 SV1760 SV1761 SV1762 SV1763 SV1764 SV1765 SV1766 SV1767 SV1768 SV1769 SV1770 SV1771 SV1772

SHAFTER

BURBANK ST

7TH STANDARD RD

LONE STAR SPUR
PROPOSED REALIGNMENT

LONE STAR SPUR

SANTA FE WAY

KRATZMEYER RD

REINA RD

SUBSECTION B1, B2 & B3

LEGEND

EXISTING FREIGHT RAILROAD

PROPOSED CHST

3000 0 3000 6000

1"=3000'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

jojo.valenzuela 12/30/2013 1:46:58 PM c:\pwworking\hmm\external\jojo.valenzuela-arup.com\dms86726\FB-SV-1750-WS1.dgn

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY E. SUDHAUSEN
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

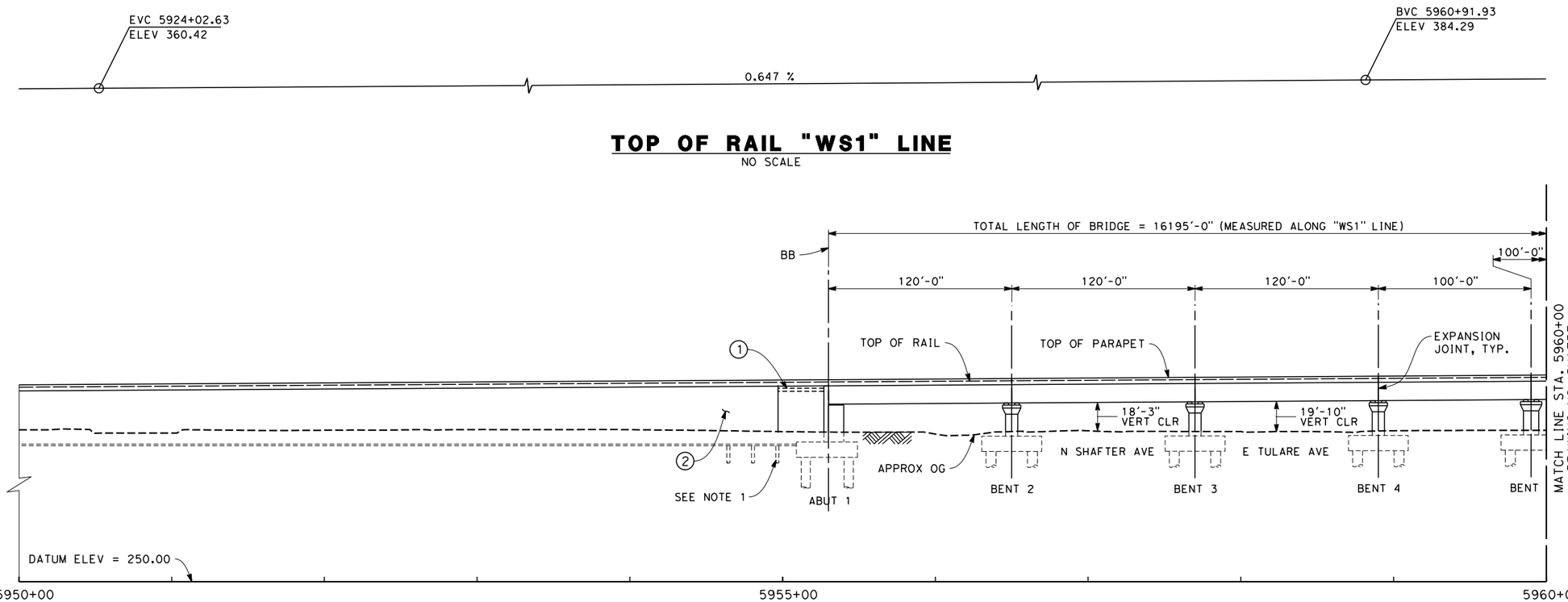
**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
KEY MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1750
SCALE AS SHOWN
SHEET NO. 1 OF 20



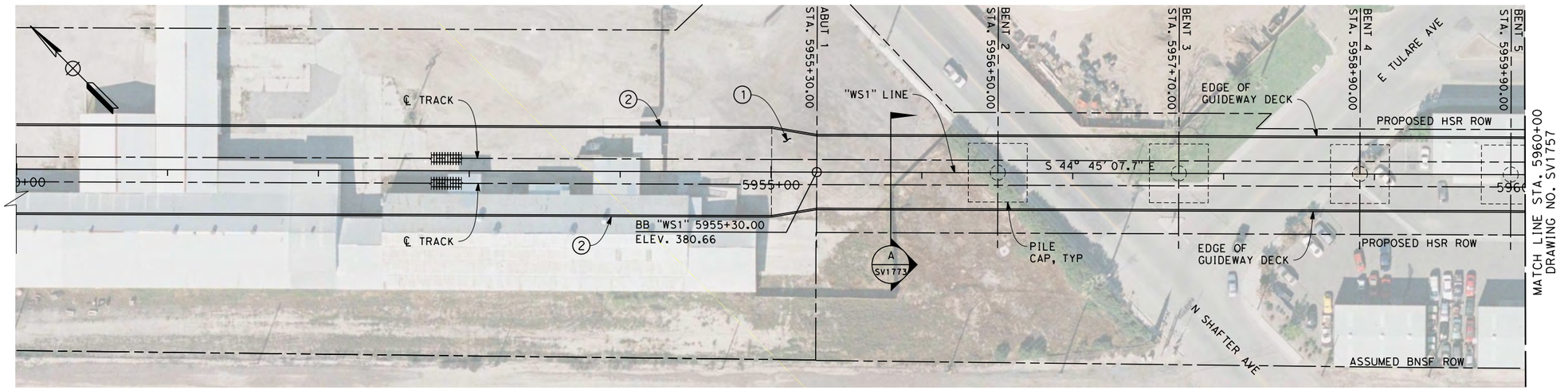

## TOP OF RAIL "WS1" LINE

NO SCALE




## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

### NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

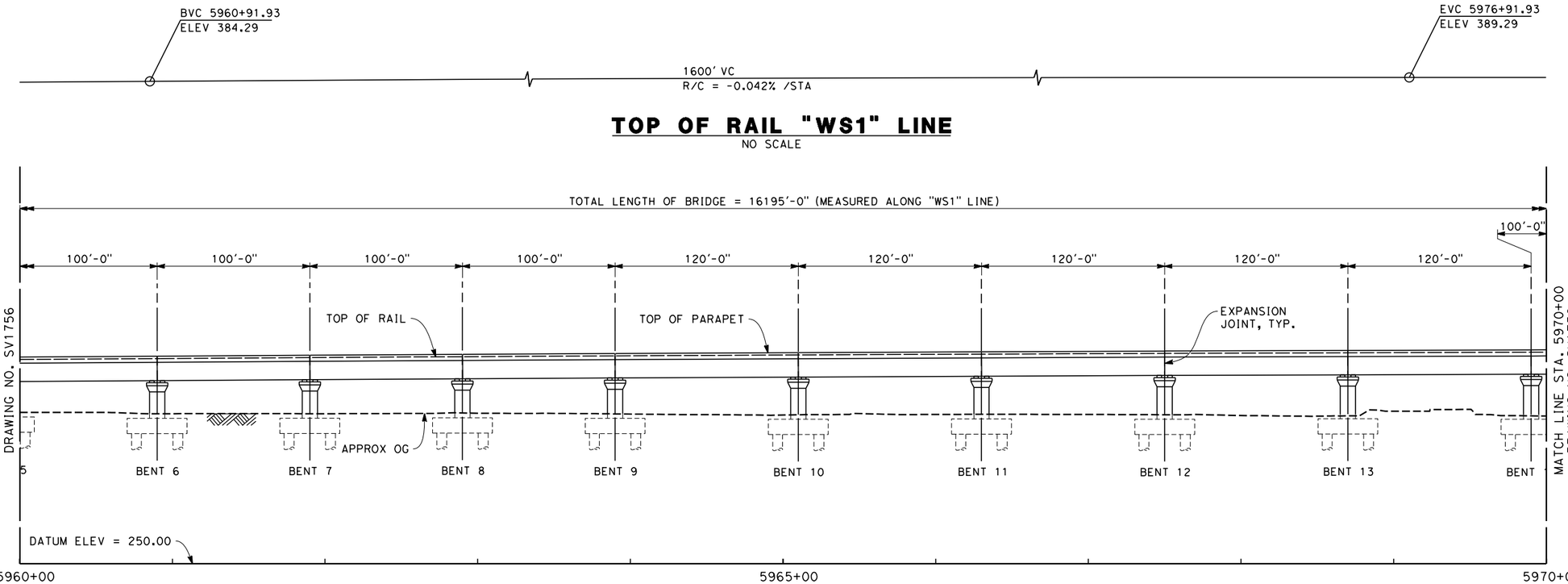
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

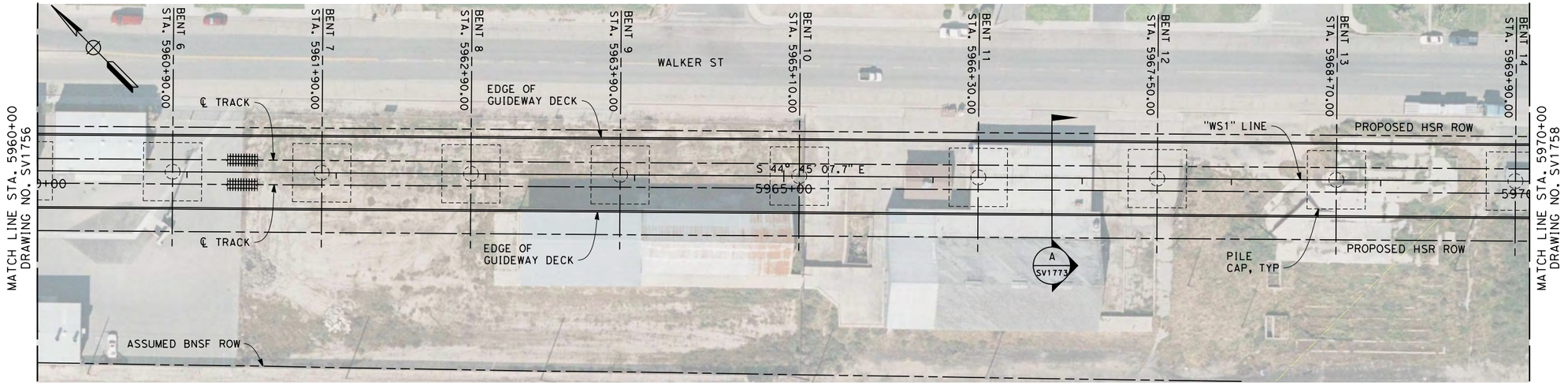
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1756
SCALE AS SHOWN
SHEET NO. 2 OF 20

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## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:
(1) STRUCTURE APPROACH SLAB
(2) RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

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|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

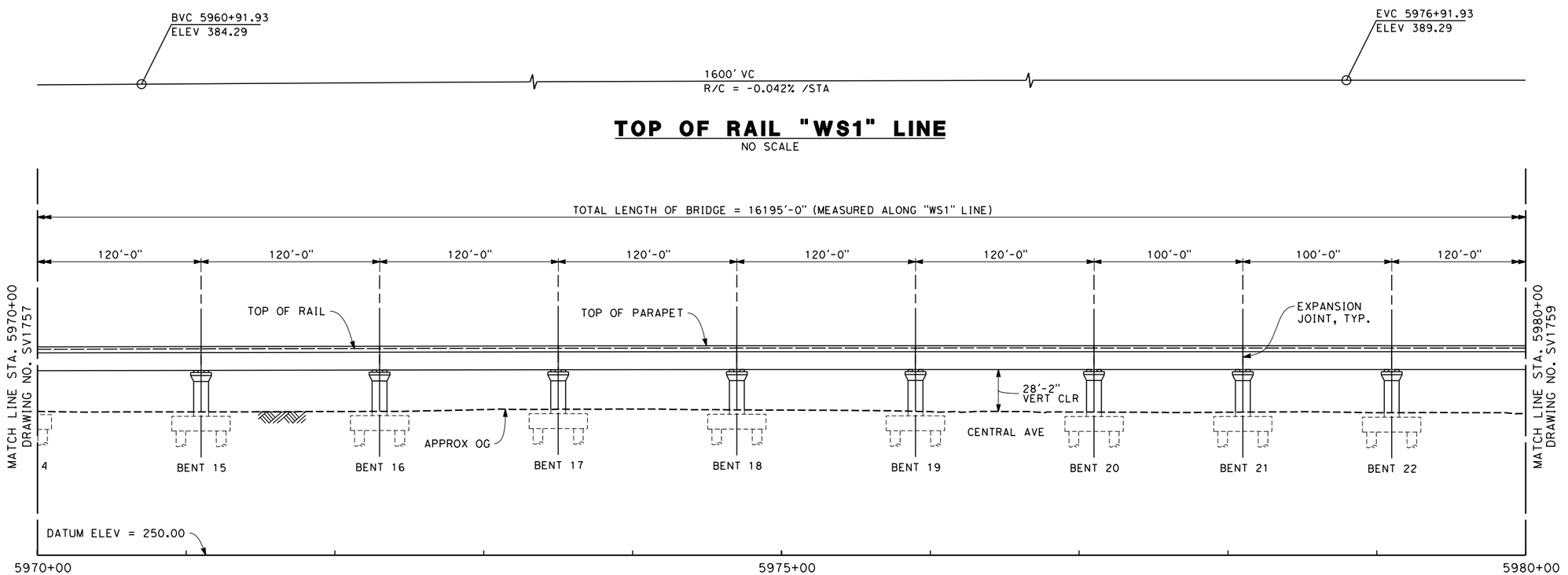
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

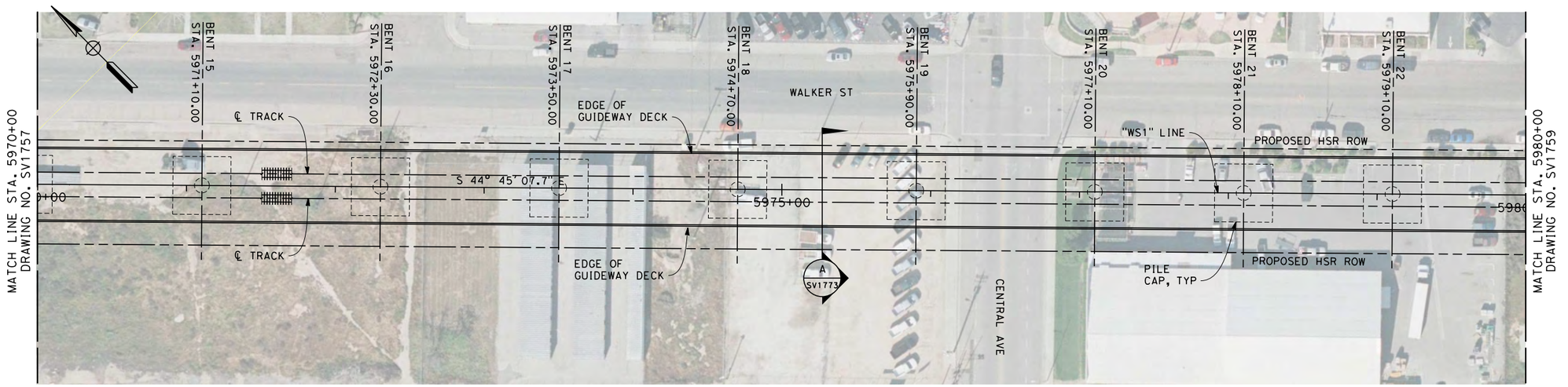
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1757
SCALE AS SHOWN
SHEET NO. 3 OF 20

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## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:
(1) STRUCTURE APPROACH SLAB
(2) RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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|---|---|---|---|---|---|

DESIGNED BY M. FISHER
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CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

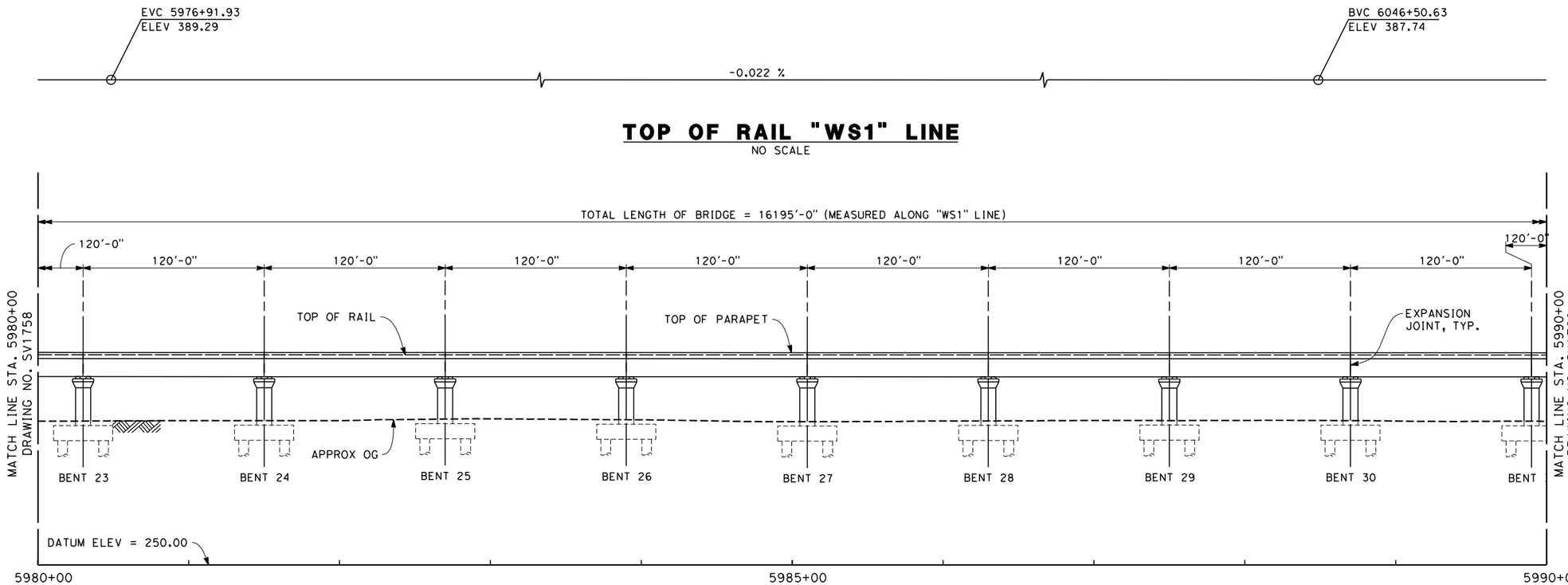
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

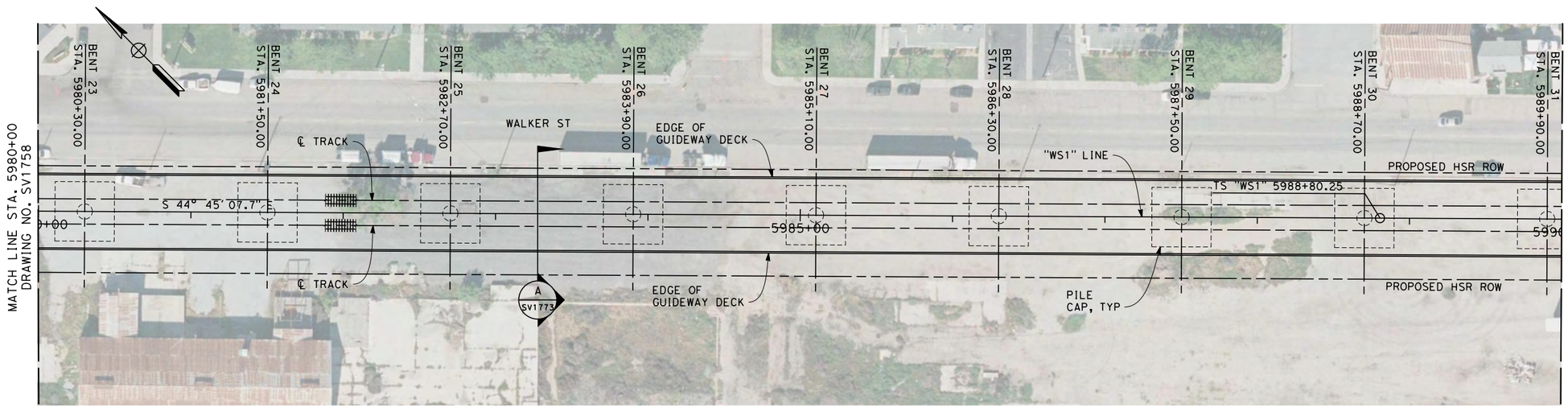
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1758
SCALE AS SHOWN
SHEET NO. 4 OF 20

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## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

### NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:
(1) STRUCTURE APPROACH SLAB
(2) RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

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CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

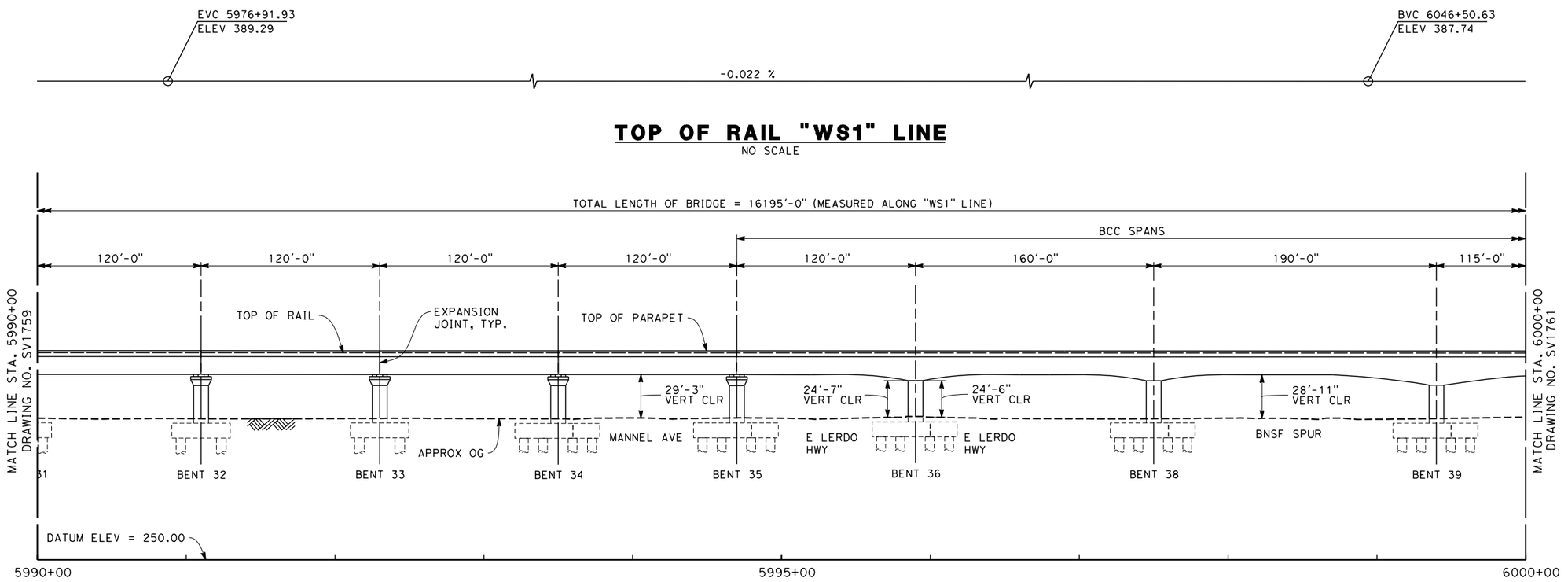
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

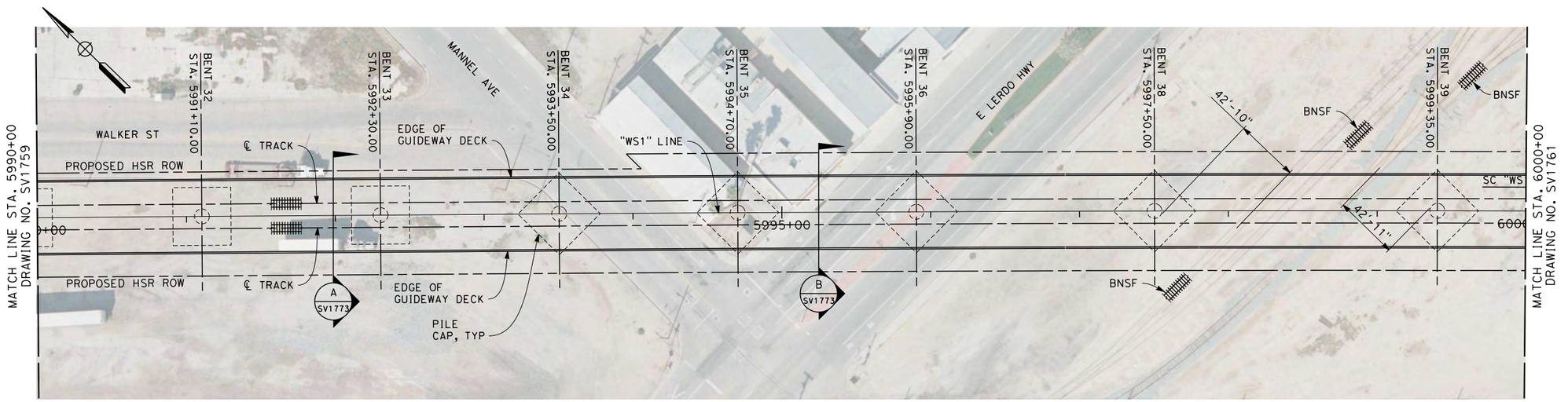
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1759
SCALE AS SHOWN
SHEET NO. 5 OF 20

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## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
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5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:
(1) STRUCTURE APPROACH SLAB
(2) RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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|---|---|---|---|---|---|

DESIGNED BY Y. REN
DRAWN BY F. PALERMO
CHECKED BY O. LIU
IN CHARGE R. COFFIN
DATE 05/23/14

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

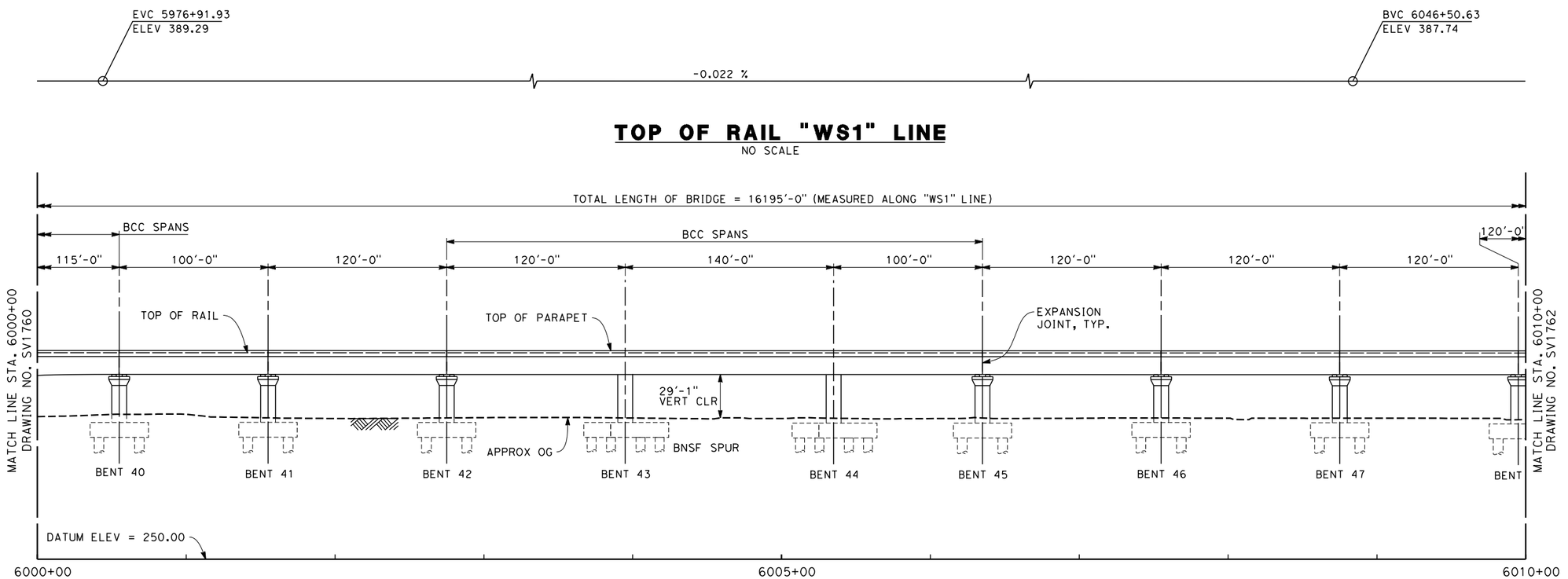
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1760
SCALE AS SHOWN
SHEET NO. 6 OF 20

$USER$ $TIME$ $DATE$ $FILE$

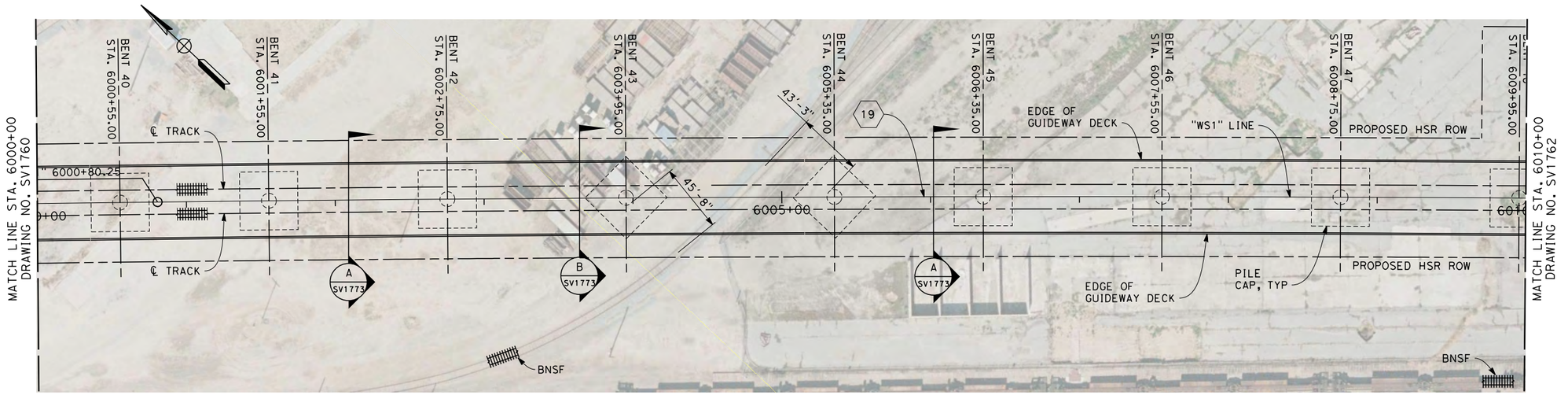



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

### NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

(19)

R = 50000
Δ = 02°32'40.6"
T = 1110.5'
L = 2220.6'

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

$USER$ $FILE$ $TIME$ $DATE$

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY Y. REN
DRAWN BY F. PALERMO
CHECKED BY Q. LIU
IN CHARGE R. COFFIN
DATE 05/23/14

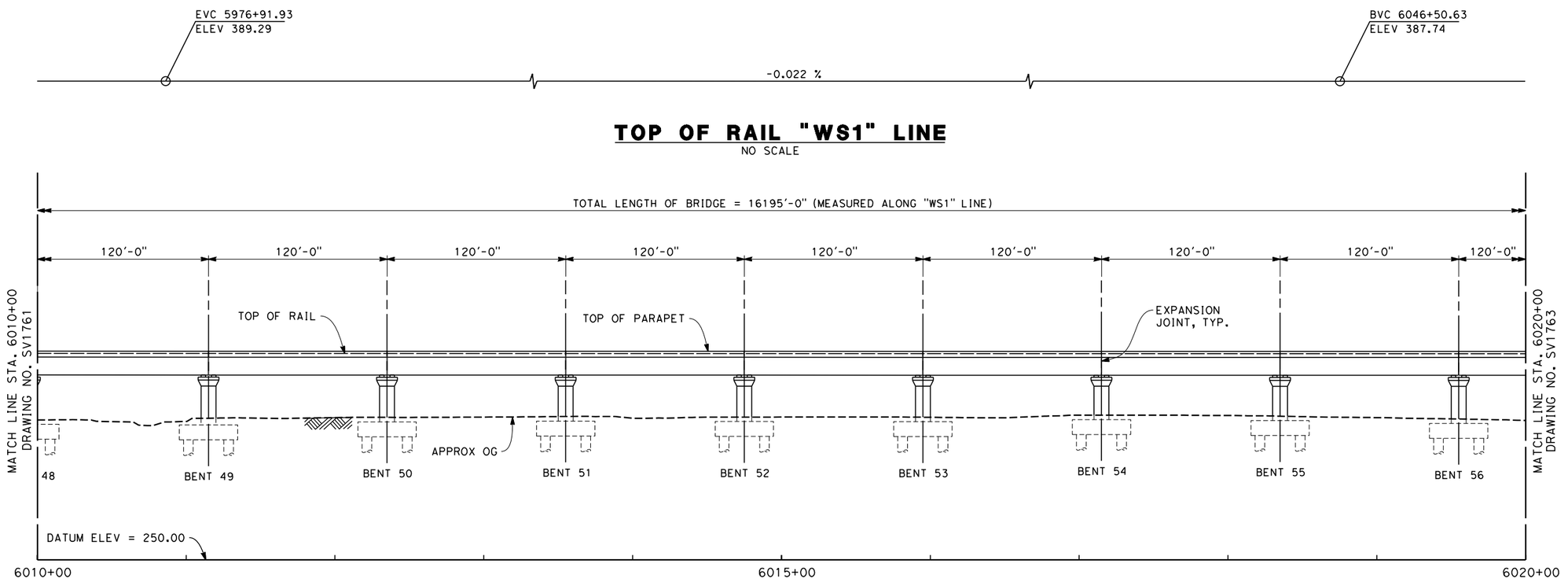
**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1761
SCALE AS SHOWN
SHEET NO. 7 OF 20

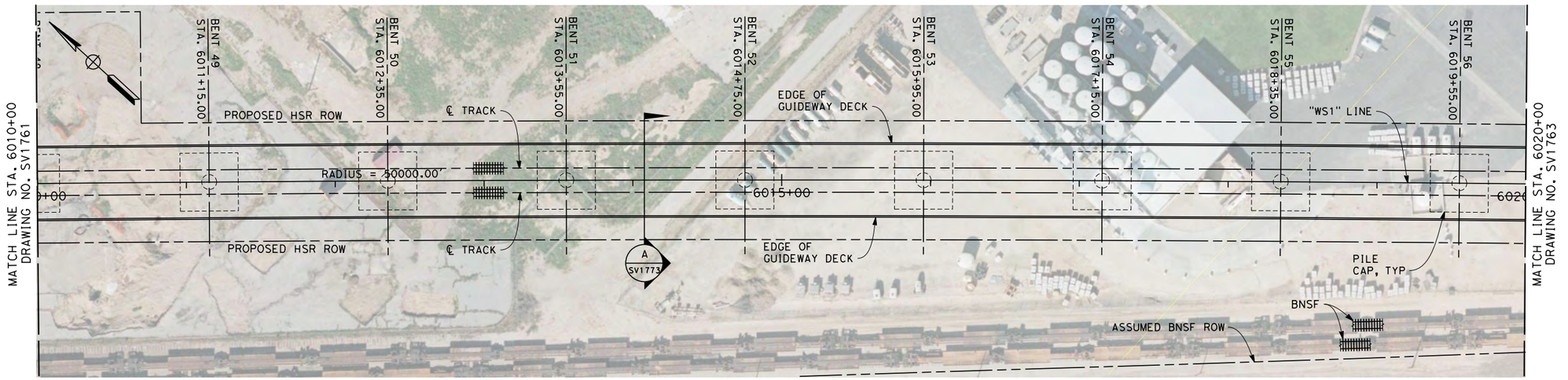



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

### NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

(19)

R = 50000
Δ = 02°32'40.6"
T = 1110.5'
L = 2220.6'

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

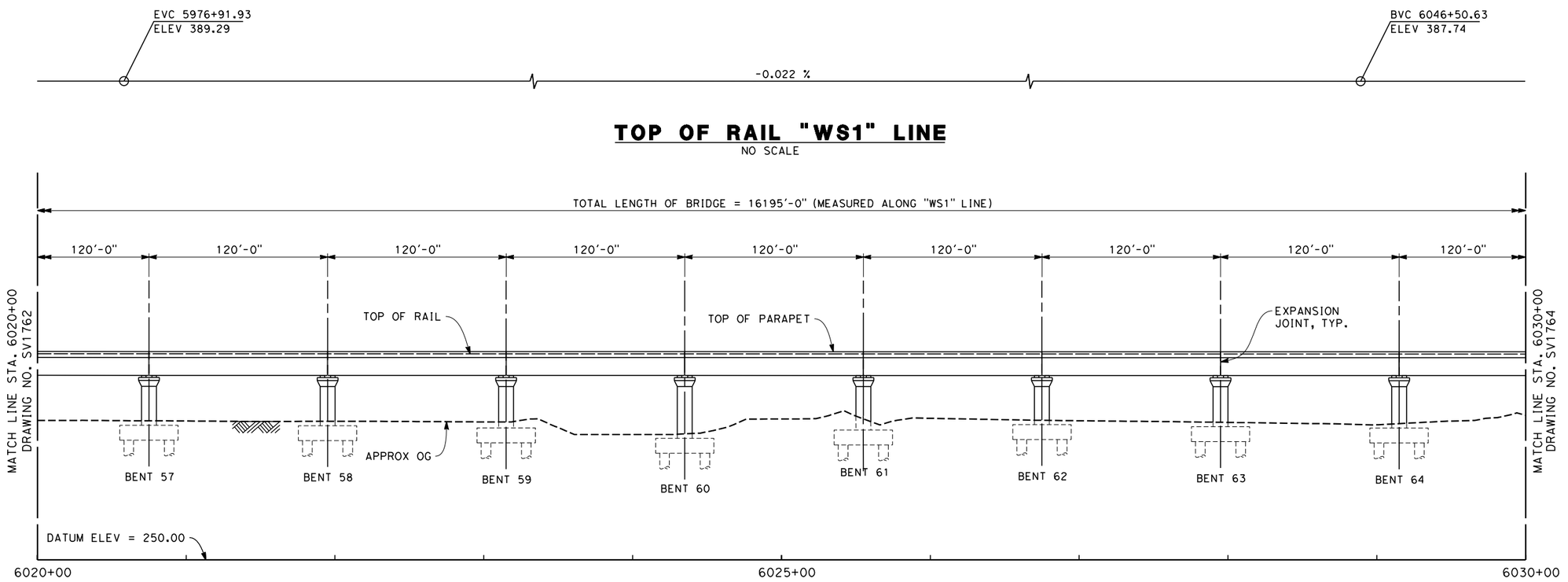
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1762
SCALE AS SHOWN
SHEET NO. 8 OF 20

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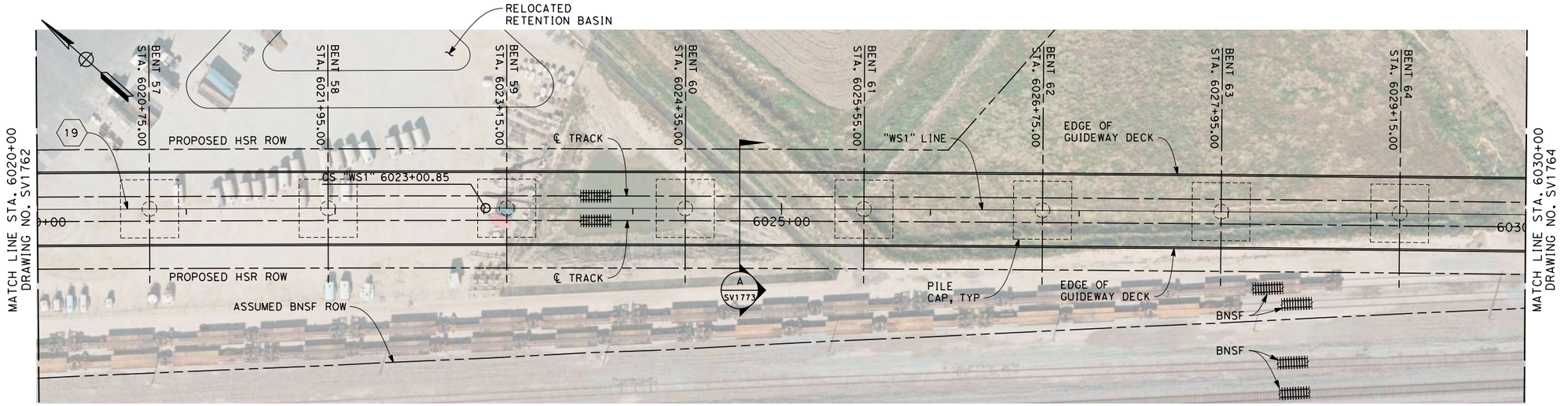



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

19

R = 50000
Δ = 02°32'40.6"
T = 1110.5'
L = 2220.6'

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

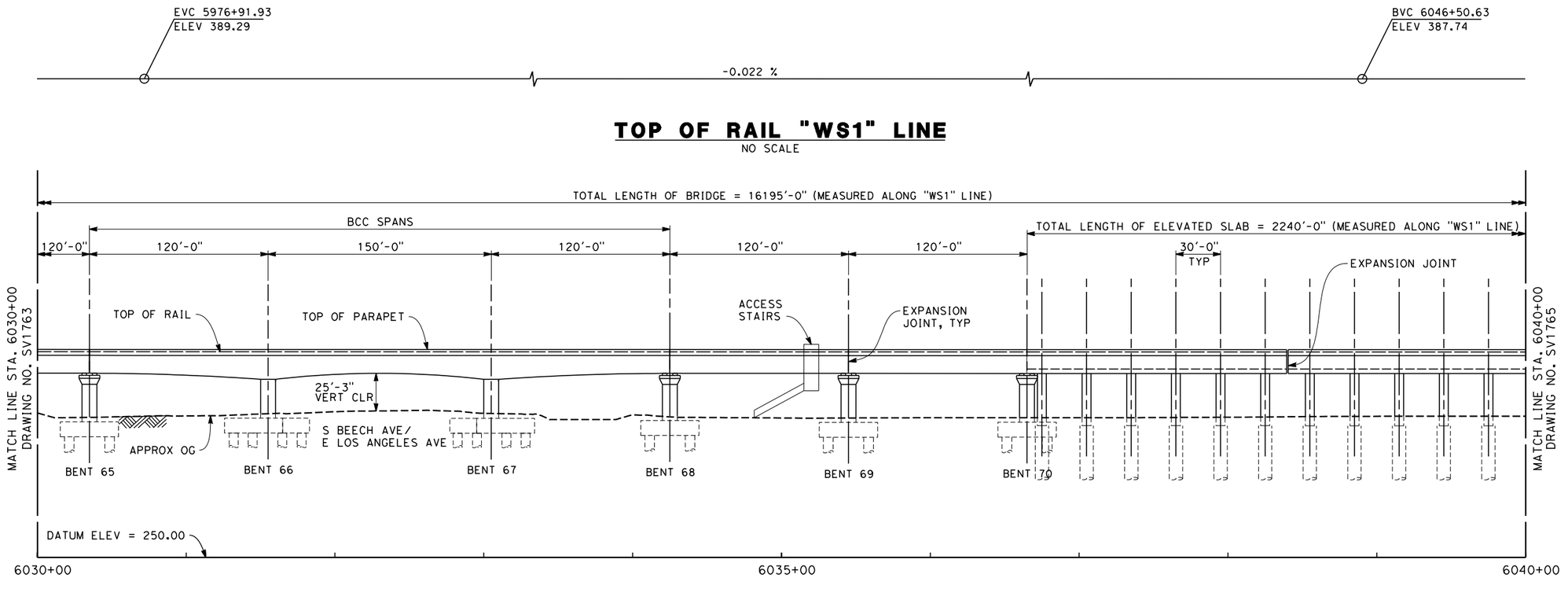
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1763
SCALE AS SHOWN
SHEET NO. 9 OF 20

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NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

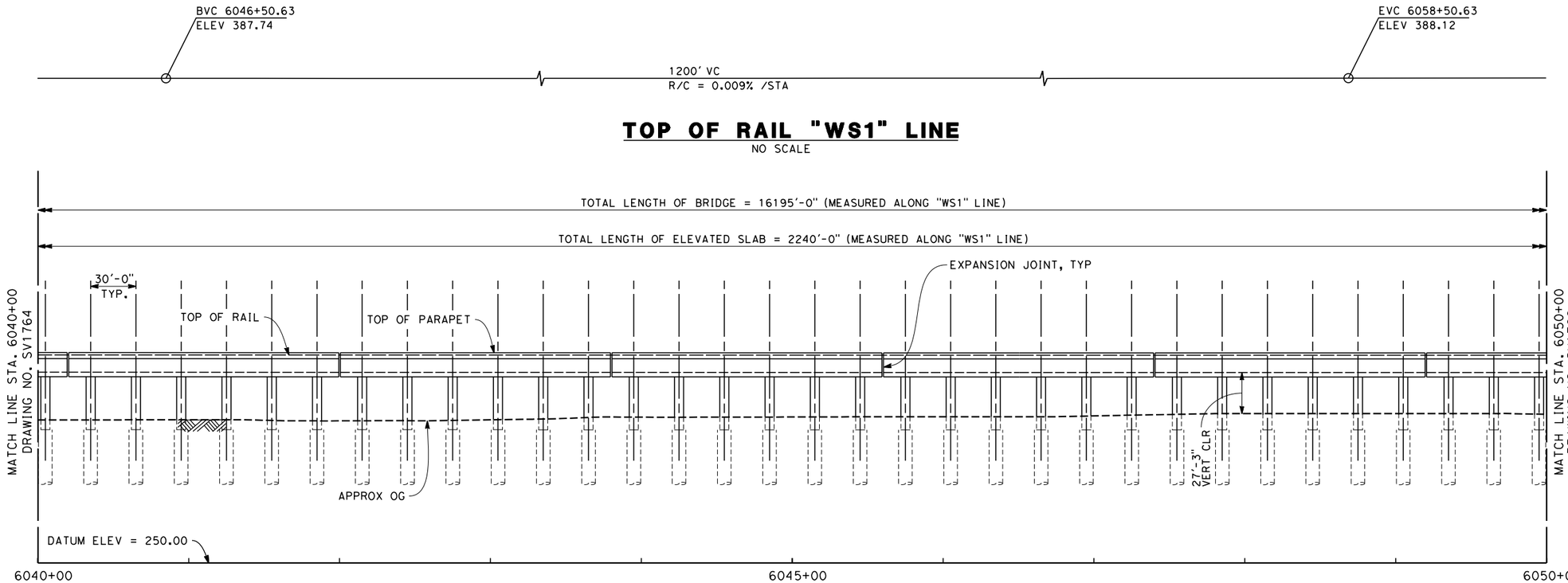
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1764
SCALE AS SHOWN
SHEET NO. 10 OF 20

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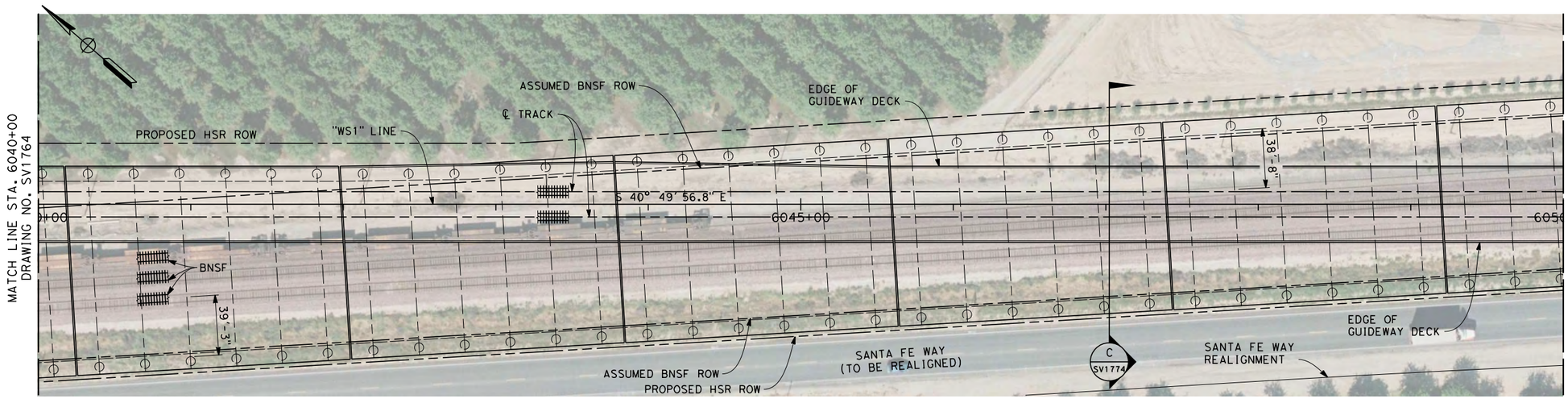



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

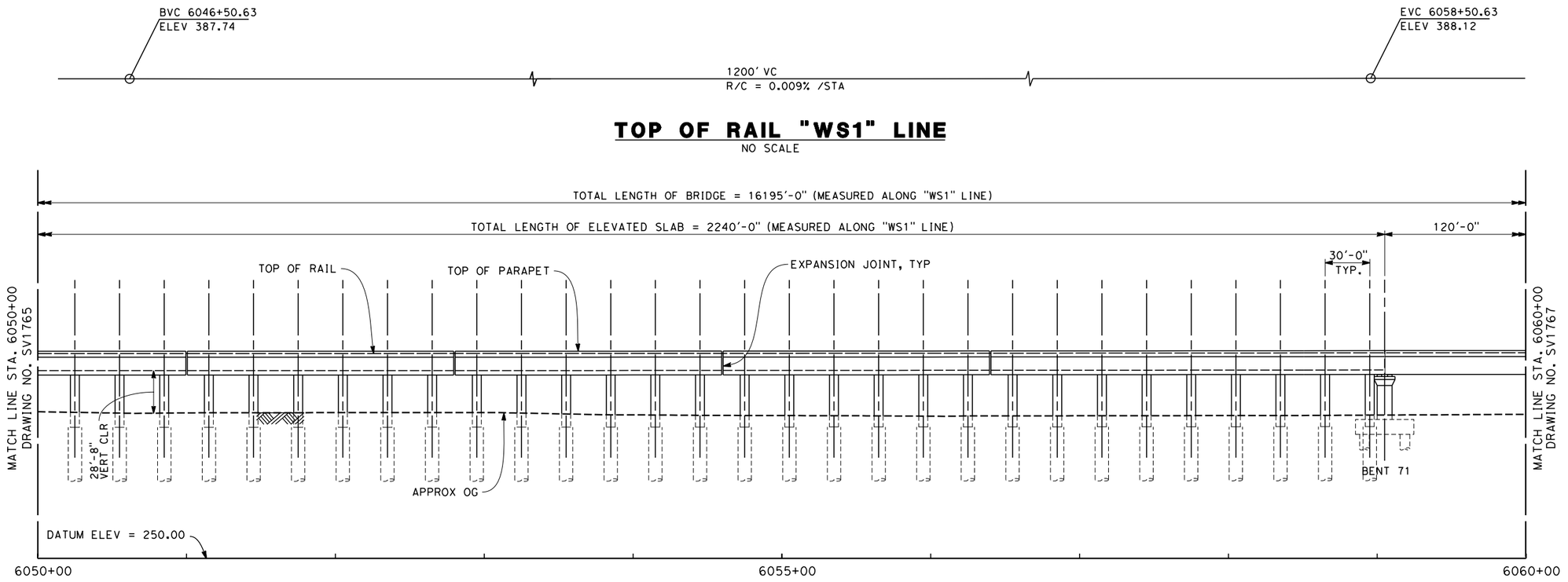
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1765
SCALE AS SHOWN
SHEET NO. 11 OF 20

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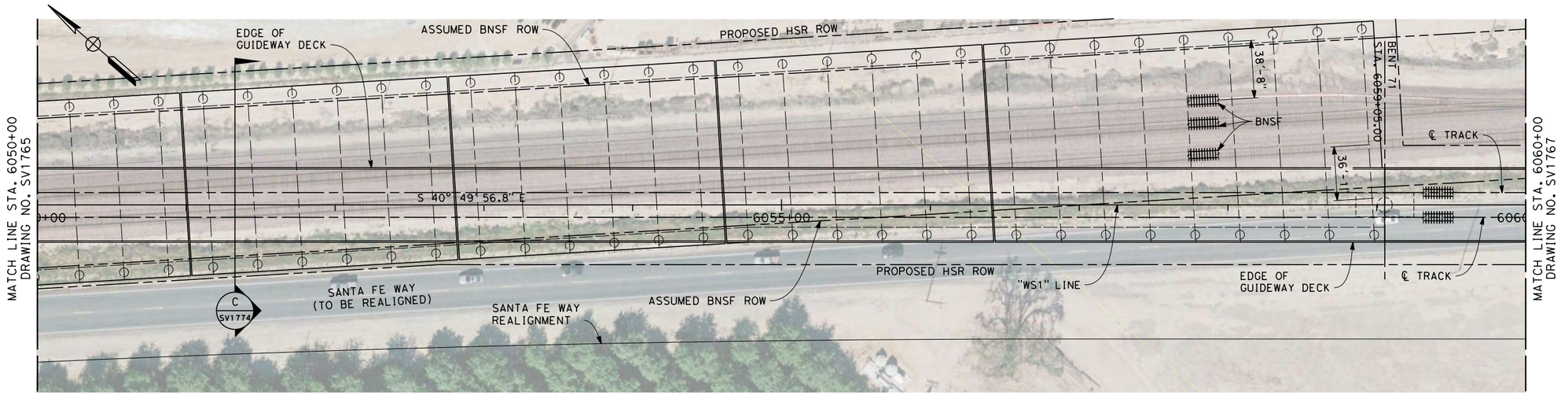



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
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LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

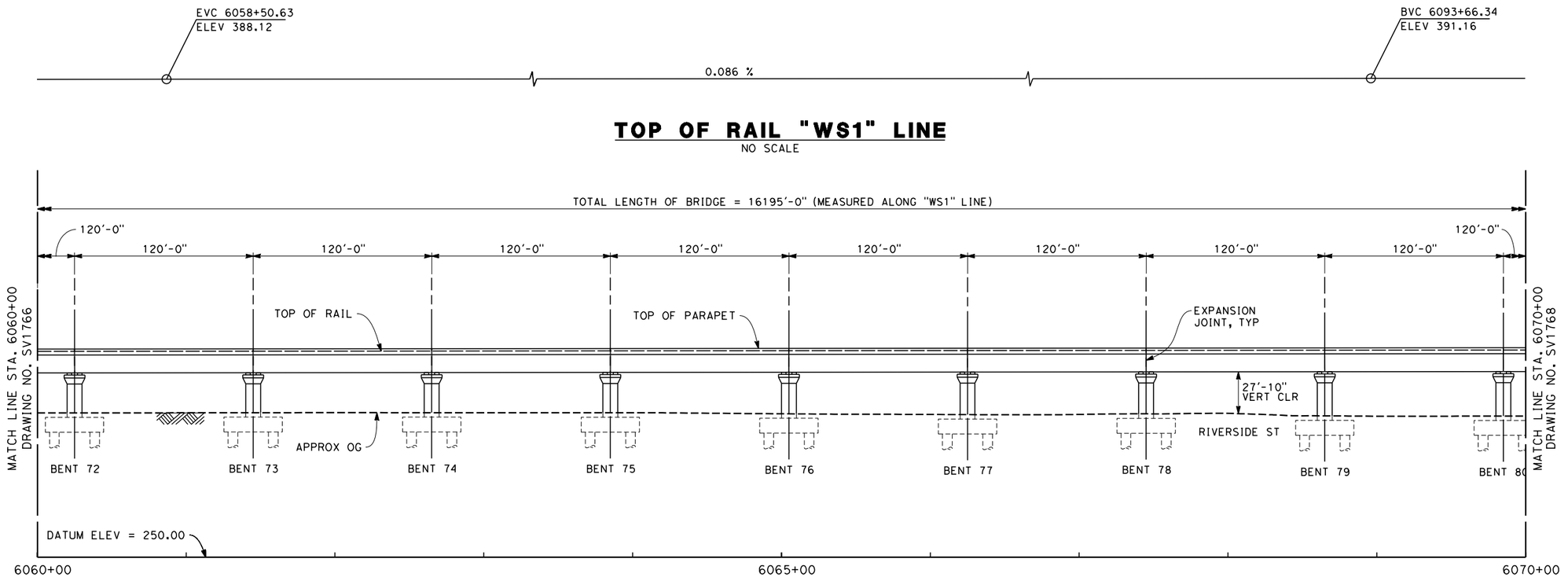
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1766
SCALE AS SHOWN
SHEET NO. 12 OF 20

Nadine.Hutton 12/12/2013 7:24:40 PM c:\pwworking\hmm\external\nadine.hutton-arup.com\dms86726\FB-SV-1766-WS1.dgn

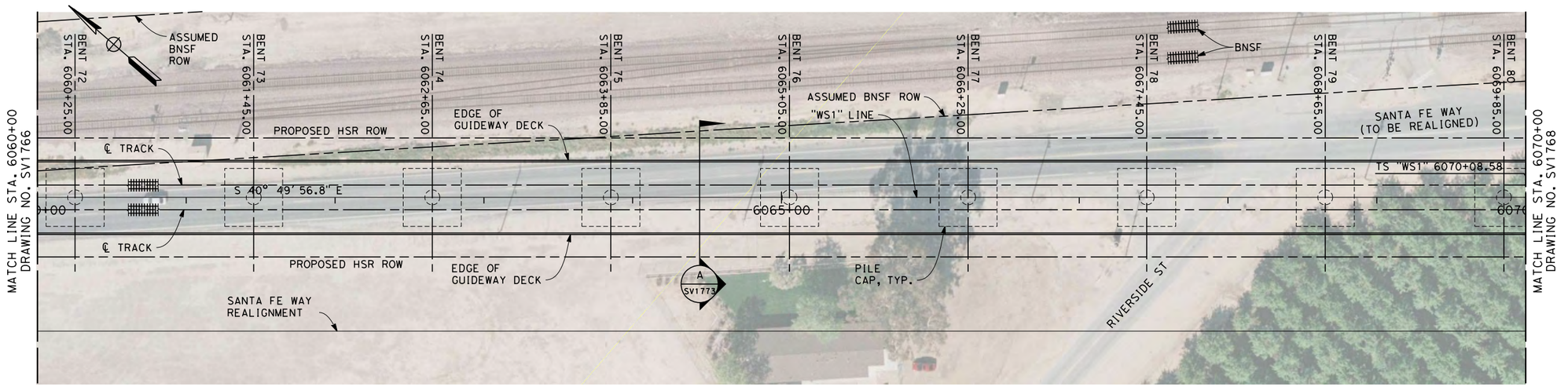



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
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LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

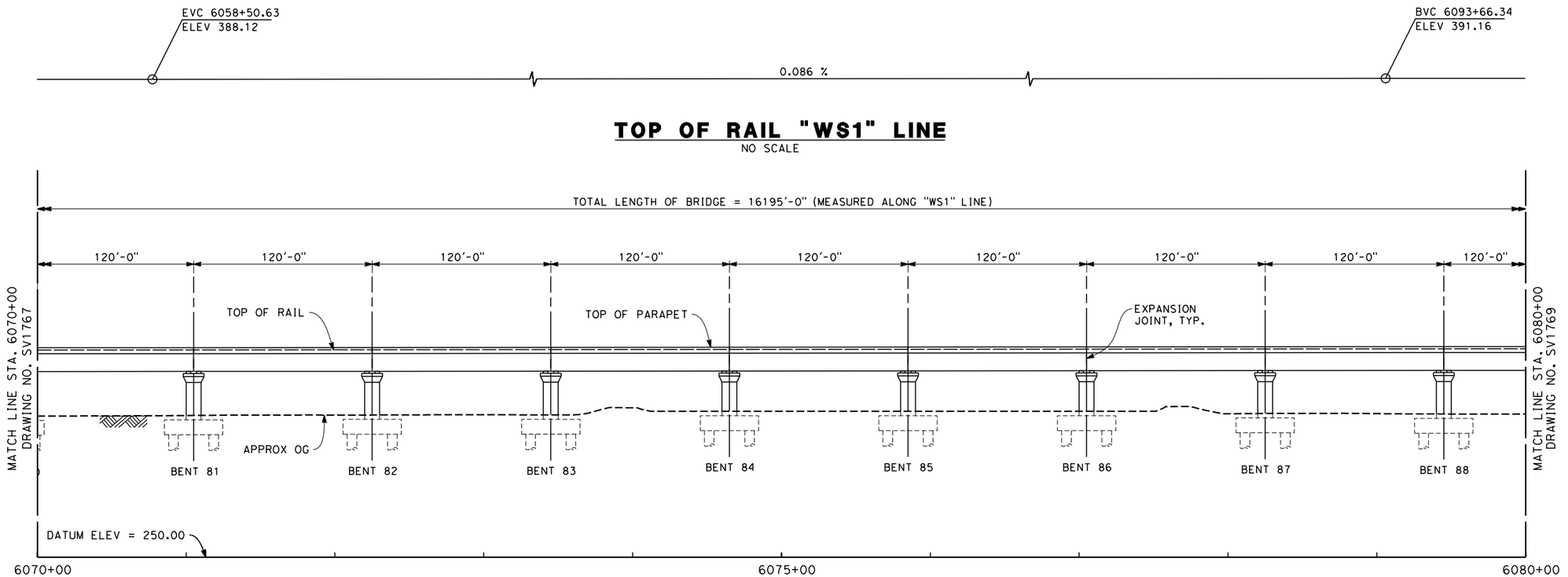
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

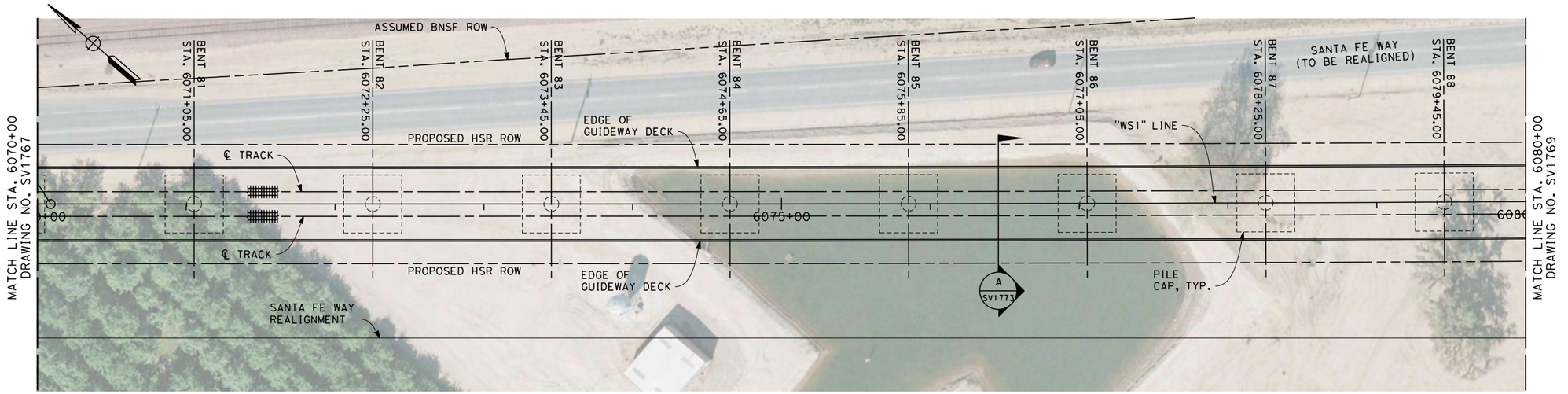
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1767
SCALE AS SHOWN
SHEET NO. 13 OF 20

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## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
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LEGEND:
(1) STRUCTURE APPROACH SLAB
(2) RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

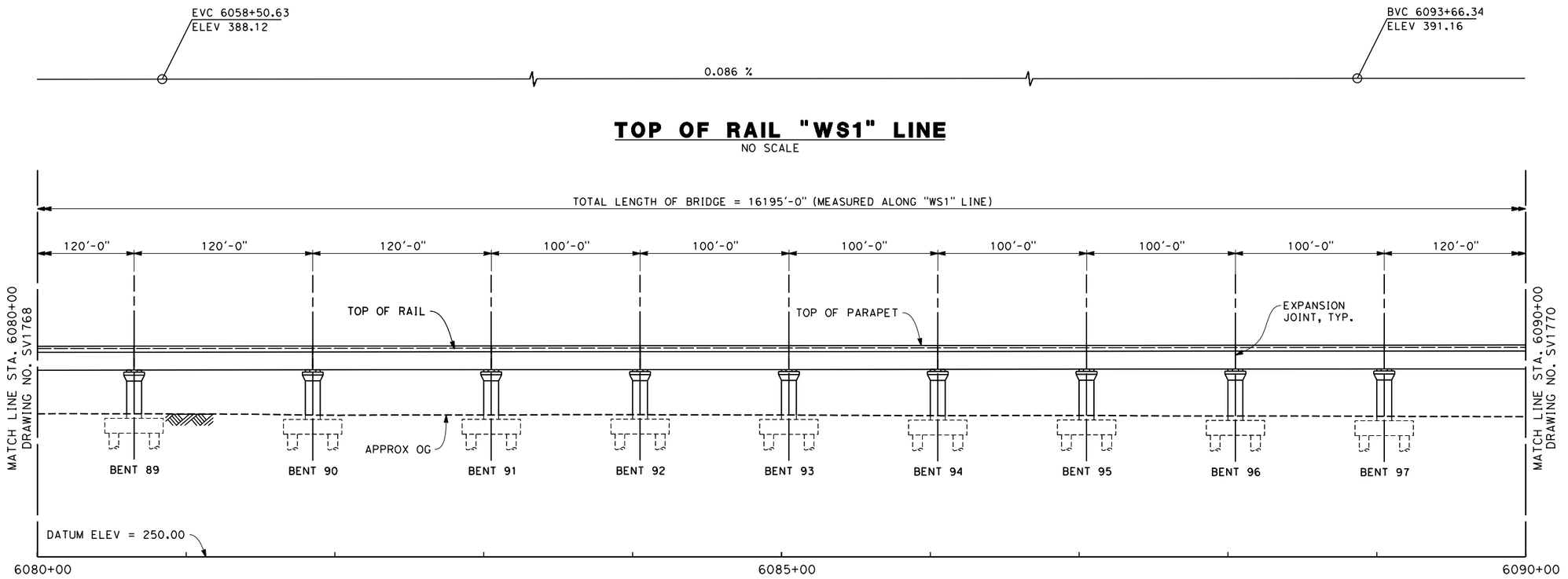
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

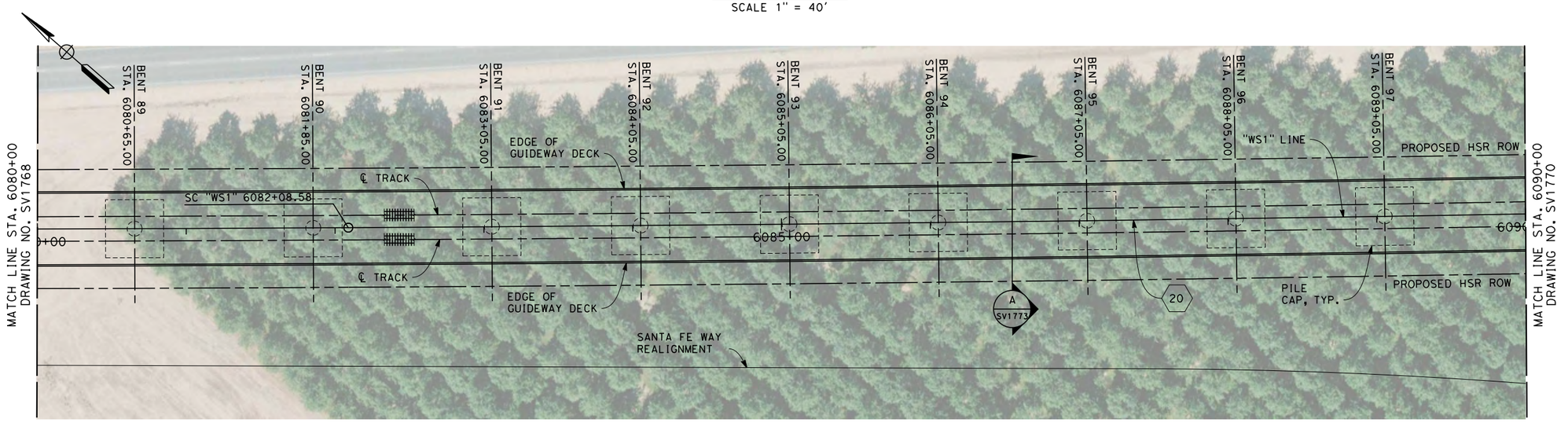
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1768
SCALE AS SHOWN
SHEET NO. 14 OF 20

Nadine.Hutton 12/12/2013 7:25:40 PM c:\pwworking\hmm\external\nadine.hutton-arup.com\dms86726\FB-SV-1768-WS1.dgn




## TOP OF RAIL "WS1" LINE
NO SCALE

## ELEVATION
SCALE 1" = 40'




## PLAN
SCALE 1" = 40'

### NOTES
1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
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5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:
(1) STRUCTURE APPROACH SLAB
(2) RETAINING WALL
* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

(20)

R = 68000.00'
Δ = 03° 44' 50.0"
T = 2224.4'
L = 4447.3'

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

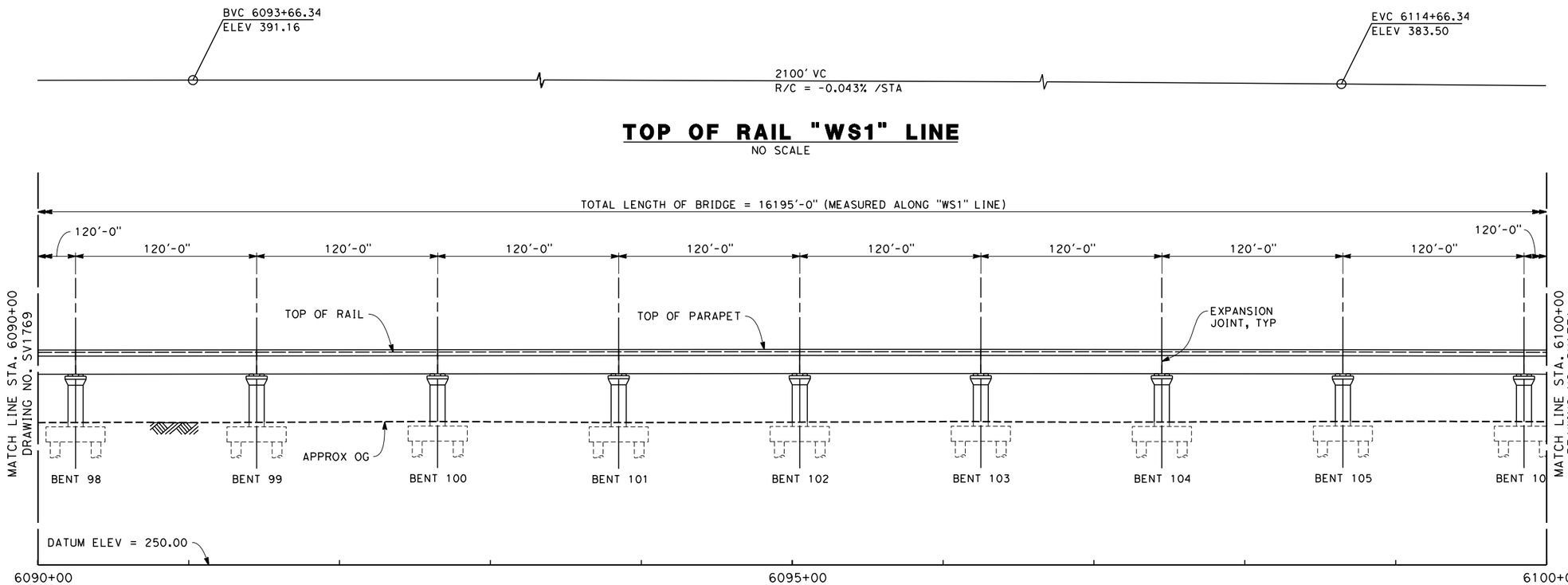
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1769
SCALE AS SHOWN
SHEET NO. 15 OF 20

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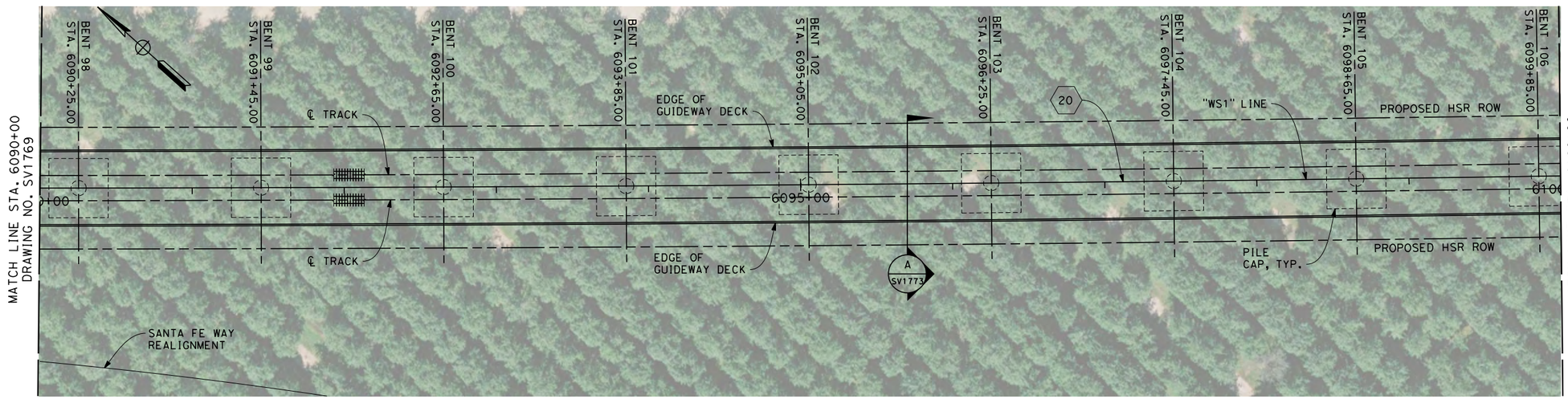



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

### NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

⬡ 20

R = 68000.00'
Δ = 03° 44' 50.0"
T = 2224.4'
L = 4447.3'

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY M. FISHER
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

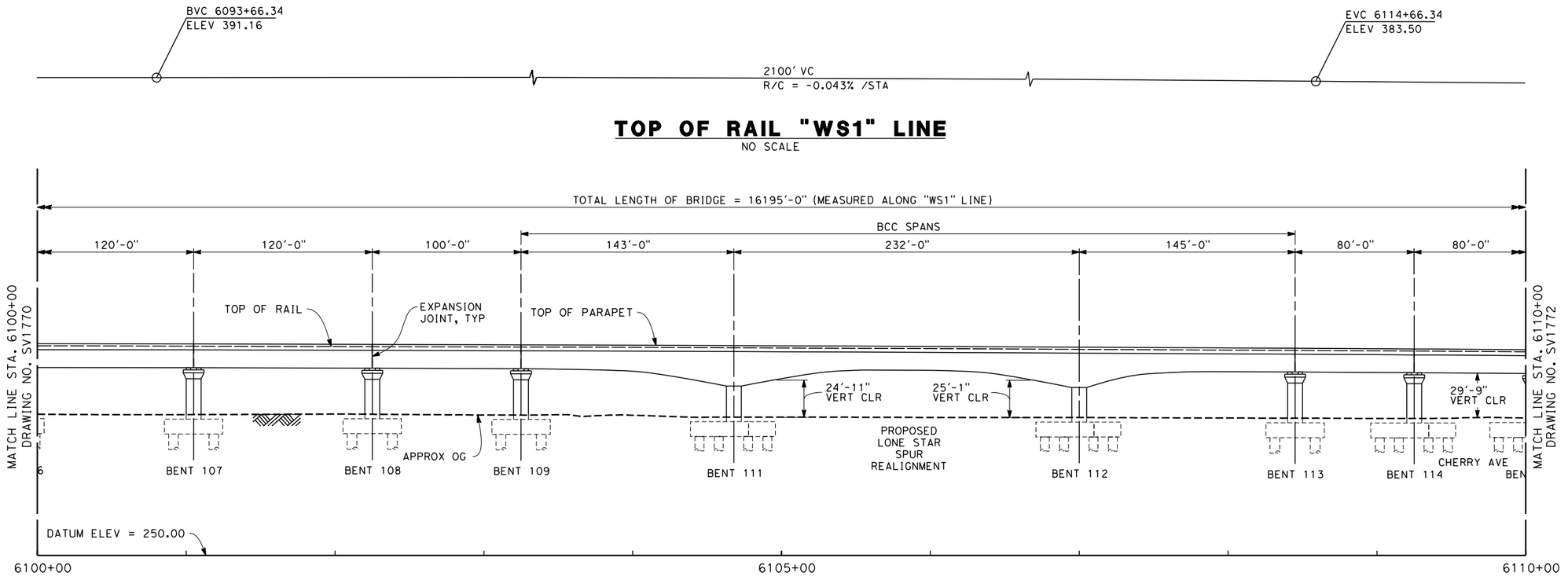
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1770
SCALE AS SHOWN
SHEET NO. 16 OF 20

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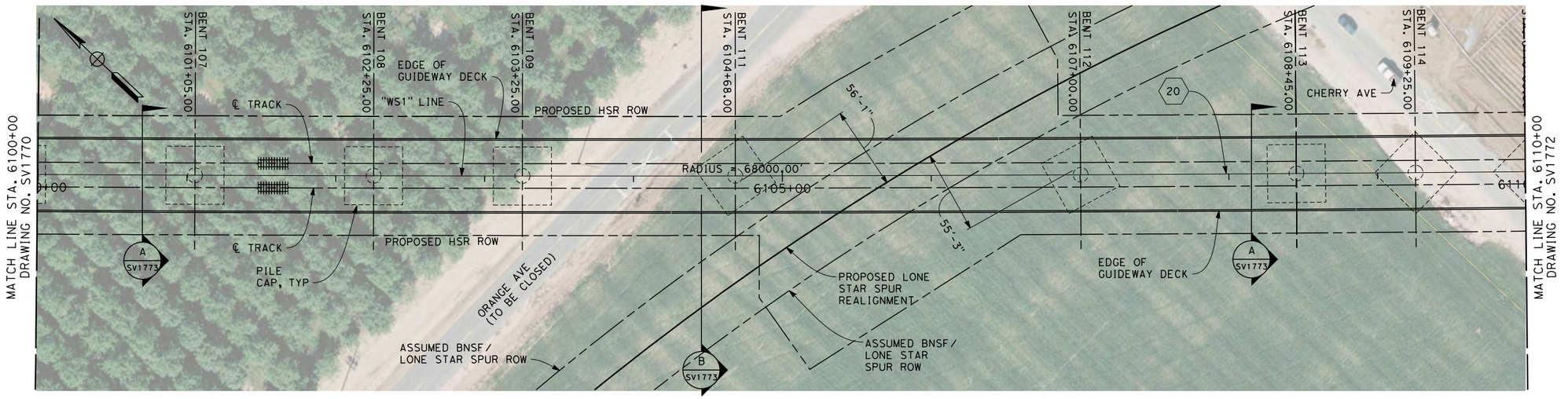



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

### NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
   SIMPLE SPANS - MSS OR FLPM
   CONTINUOUS SPANS - BCC - PRECAST IN-SITU
   STEEL TRUSS - INSITU, SLID OR LAUNCHED
   ELEVATED SLABS - PC BEAM AND INSITU SLAB
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LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

(20)

R = 68000.00'
Δ = 03° 44' 50.0"
T = 2224.4'
L = 4447.3'

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY Y. REN
DRAWN BY F. PALERMO
CHECKED BY O. LIU
IN CHARGE R. COFFIN
DATE 05/23/14

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

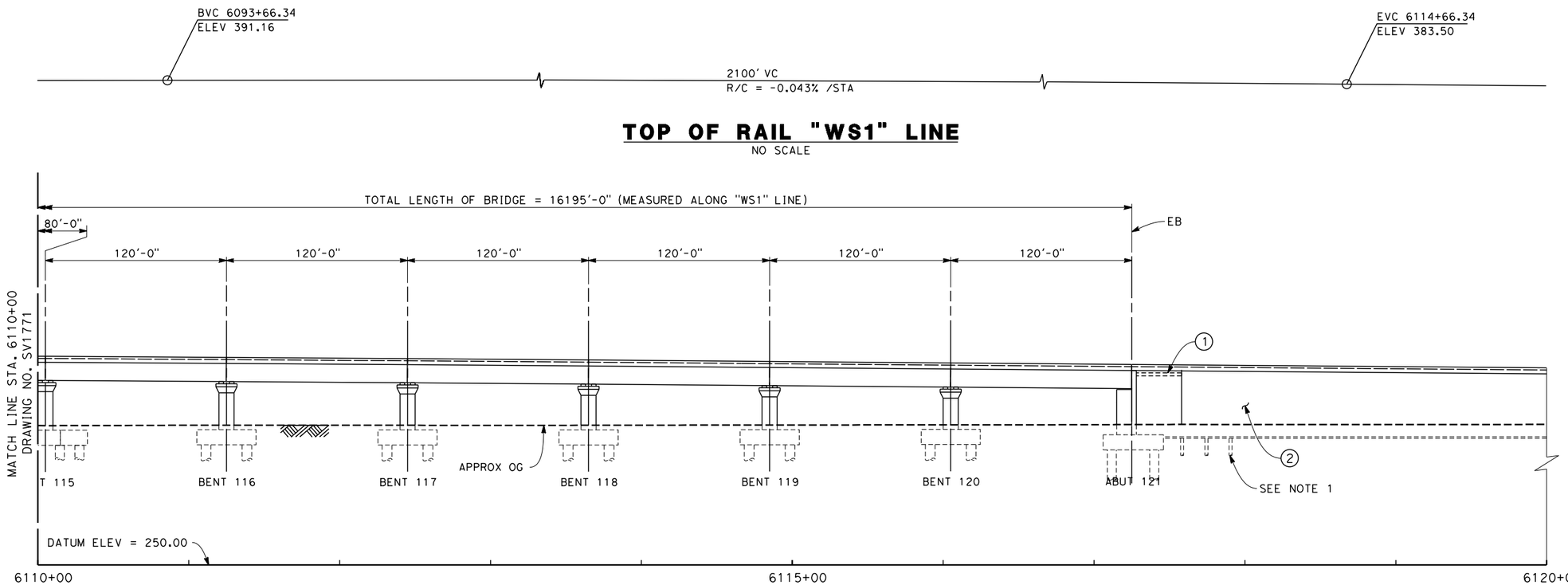
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1771
SCALE AS SHOWN
SHEET NO. 17 OF 20

$USER$ $DATE$ $TIME$ $FILE$

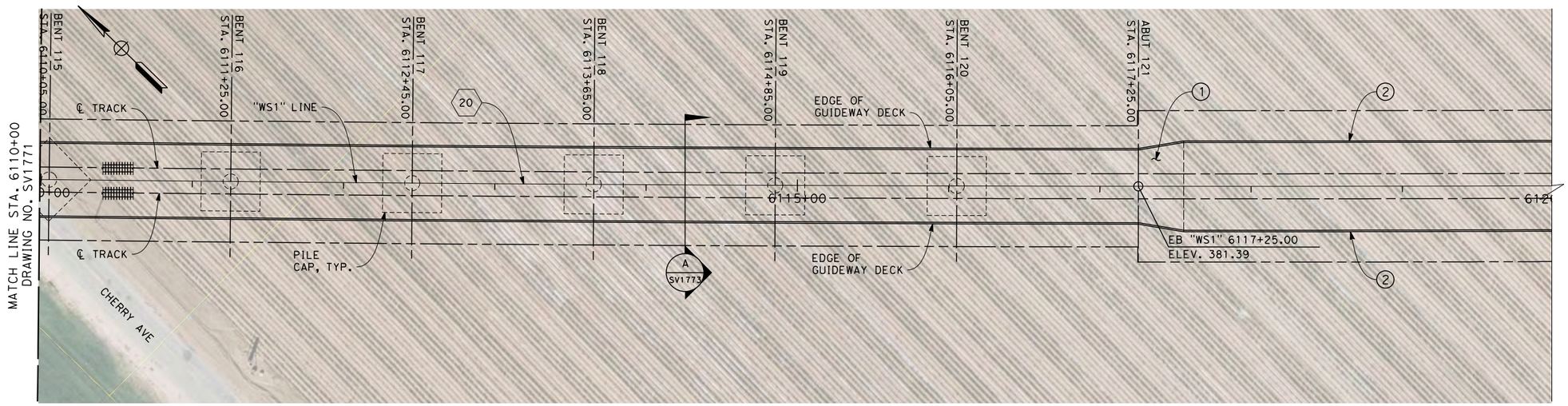



## TOP OF RAIL "WS1" LINE

NO SCALE

## ELEVATION

SCALE 1" = 40'




## PLAN

SCALE 1" = 40'

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
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LEGEND:

(1) STRUCTURE APPROACH SLAB

(2) RETAINING WALL

* ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

(20)

R = 68000.00'
Δ = 03° 44' 50.0"
T = 2224.4'
L = 4447.3'

40 0 40 80
1"=40'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

$FILE$ $TIME$ $DATE$ $USER$

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY Y. REN
DRAWN BY F. PALERMO
CHECKED BY Q. LIU
IN CHARGE R. COFFIN
DATE 05/23/14

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

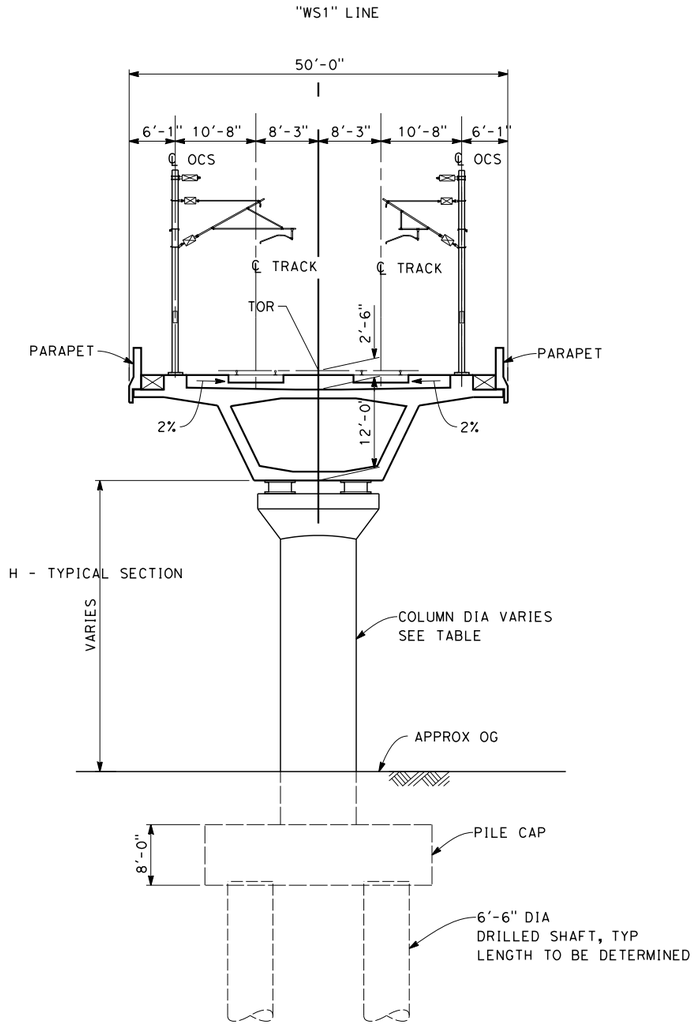
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

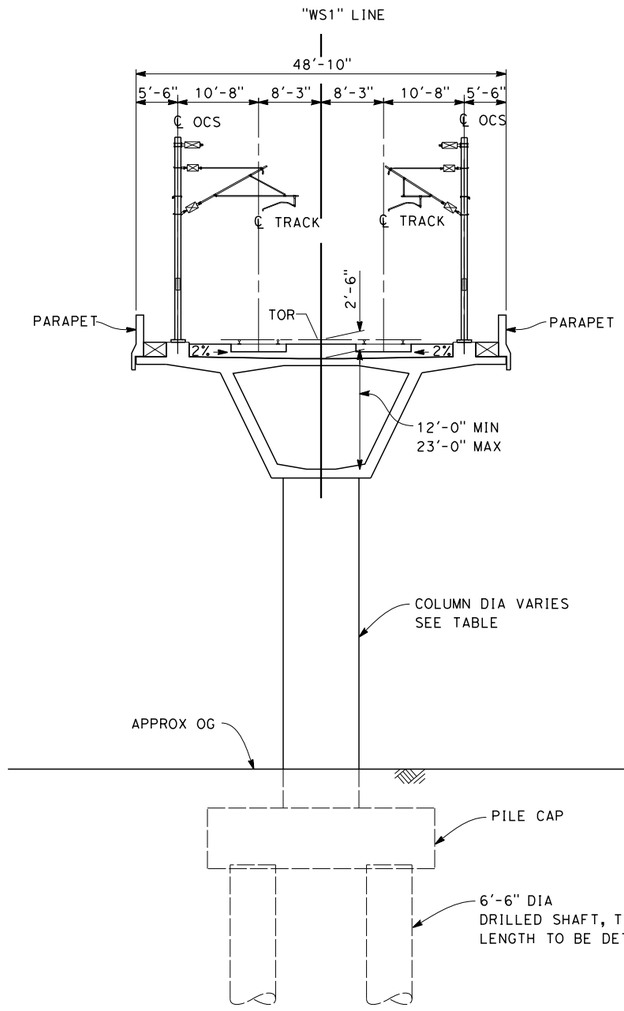
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD

THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
PLAN AND ELEVATION

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1772
SCALE AS SHOWN
SHEET NO. 18 OF 20




| COLUMN DIAMETERS | |
|---|---|
| COLUMN HEIGHT | DIAMETER |
| 0-20 | 8 FT |
| 20-40 | 10 FT |
| 40-50 | 12 FT |
| 50-60 | 15 FT |
| 60-80 | 20 FT |
| 80-100 | 25 FT |

## SECTION A
SCALE: 1" = 10'

STA 5955+30 THROUGH 5994+70
STA 6000+55 THROUGH 6002+75
STA 6006+35 THROUGH 6030+35
STA 6034+25 THROUGH 6036+65
STA 6059+05 THROUGH 6103+25
STA 6108+45 THROUGH 6117+25

## SECTION B
SCALE: 1" = 10'

STA 5994+70 THROUGH 6000+55
STA 6002+75 THROUGH 6006+35
STA 6030+35 THROUGH 6034+25
STA 6103+25 THROUGH 6108+45

10 0 10 20
1"-10'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

$USER$ $DATE$ $TIME$ $FILE$

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY Y. REN
DRAWN BY F. PALERMO
CHECKED BY Q. LIU
IN CHARGE R. COFFIN
DATE 05/23/14

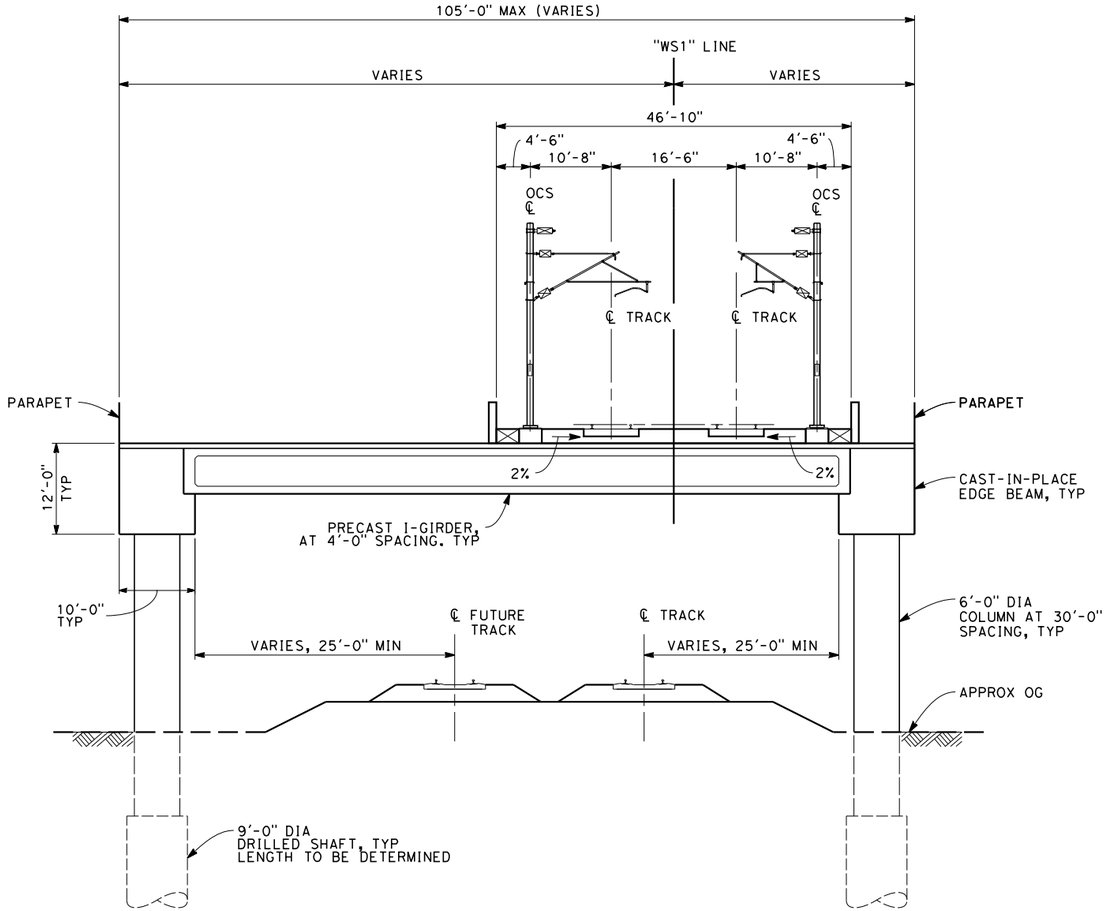
**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

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CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
TYPICAL SECTIONS

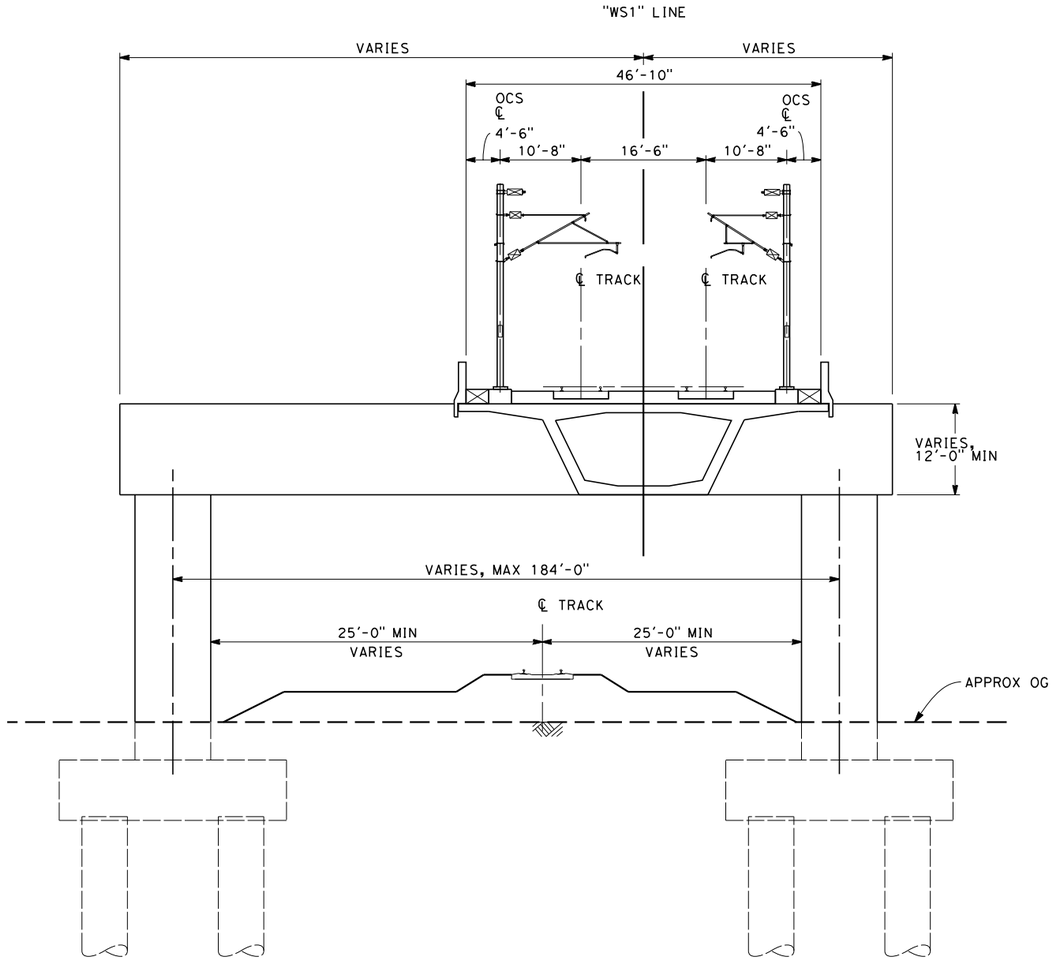
CONTRACT NO. HSR 06-0003
DRAWING NO. SV1773
SCALE AS SHOWN
SHEET NO. 19 OF 20




## SECTION C

SCALE: 1" = 10'

STA 6036+65 THROUGH 6059+05




## SECTION D

SCALE: 1" = 10'

STA 6105+25 THROUGH 6106+45

10 0 10 20
1"-10'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY Y. REN
DRAWN BY F. PALERMO
CHECKED BY A. ARMSTRONG
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

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CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
SHAFTER VIADUCT
TYPICAL SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. SV1774
SCALE AS SHOWN
SHEET NO. 20 OF 20

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# CALIFORNIA HIGH-SPEED TRAIN

## Roadway and Grade Separation Plans




# RECORD SET 15% DESIGN SUBMISSION

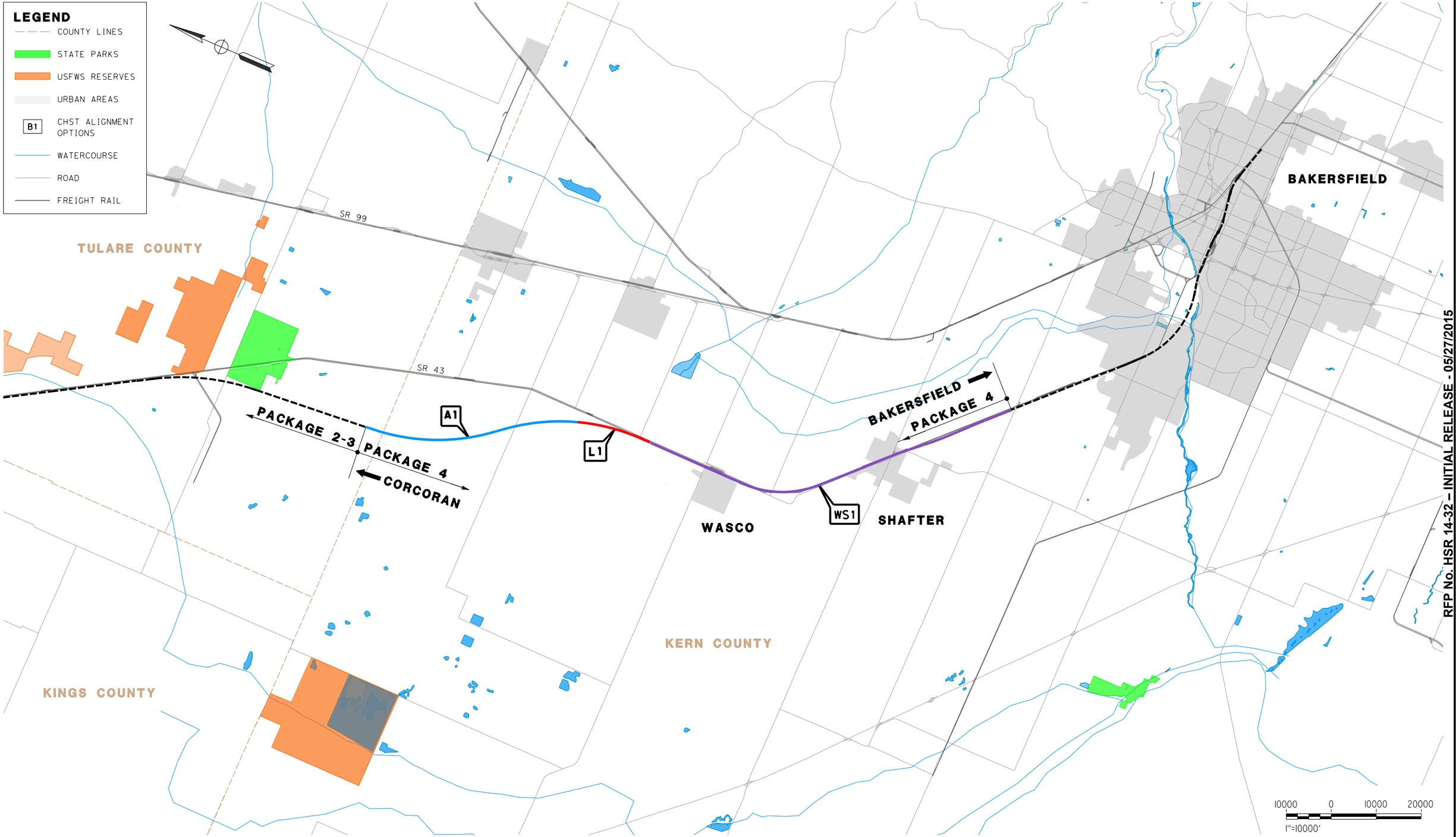
# Fresno to Bakersfield

## Plans and Profiles and Cross Sections

May 2014

CALIFORNIA High-Speed Rail Authority

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY K. SEYMOUR
DRAWN BY P. TONKIN
CHECKED BY S. BURGES
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
PACKAGE 4
ALIGNMENT
LOCATION MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-B1100
SCALE AS SHOWN
SHEET NO. 1 OF 5

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## GENERAL SHEETS

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| TT-B1100 | | ALIGNMENT - LOCATION MAP | 1 OF 5 |
| GE-A0029 | | ROADWAY & GRADE SEPARATION - INDEX OF SHEETS - SHEET 1 OF 2 | 2 OF 5 |
| GE-A0031 | | ROADWAY & GRADE SEPARATION - INDEX OF SHEETS - SHEET 2 OF 2 | 3 OF 5 |
| CB0010 | | GENERAL - ABBREVIATIONS & LEGENDS - SHEET 1 OF 2 | 4 OF 5 |
| CB0011 | | GENERAL - ABBREVIATIONS & LEGENDS - SHEET 2 OF 2 | 5 OF 5 |

## ALIGNMENT A1 - ALLENSWORTH BYPASS SUBSECTION

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| CB0110 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1100 | - |
| CV-T1100 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - ROADWAY/GRADE SEPARATION - KEY MAP | 1 OF 24 |
| ~~CT1501~~ | | ~~ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION LAYOUT - COUNTY RD J22~~ | ~~2 OF 24~~ |
| CT1511 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1101 | - |
| CV-T1101 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION LAYOUT - GARCES HWY | 3 OF 24 |
| CT1512 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1102 | - |
| CV-T1102 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION LAYOUT - GARCES HWY | 4 OF 24 |
| CT1513 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1103 | - |
| CV-T1103 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION LAYOUT - SCOFIELD AVE | 5 OF 24 |
| CT1514 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1104 | - |
| CV-T1104 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION LAYOUT - SCOFIELD AVE | 6 OF 24 |
| CT1521 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1108 | - |
| CV-T1108 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION LAYOUT - POND RD | 7 OF 24 |
| CT1522 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION LAYOUT - POND RD | 8 OF 24 |
| CT1523 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION LAYOUT - MAGNOLIA AVE | 9 OF 24 |
| CT1531 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION LAYOUT - PETERSON RD | 10 OF 24 |
| CT1532 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION LAYOUT - PETERSON RD | 11 OF 24 |
| ~~CT2501~~ | | ~~ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - COUNTY RD J22~~ | ~~12 OF 24~~ |
| CT2510 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - GARCES HWY | 13 OF 24 |
| CT2511 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - GARCES HWY | 14 OF 24 |
| CT2512 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1105 | - |
| CV-T1105 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - SCOFIELD AVE | 15 OF 24 |
| CT2513 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1106 | - |
| CV-T1106 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - SCOFIELD AVE | 16 OF 24 |
| CT2514 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1107 | - |
| CV-T1107 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - SCOFIELD AVE | 17 OF 24 |
| CT2521 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - POND RD | 18 OF 24 |
| CT2522 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - POND RD | 19 OF 24 |
| CT2523 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - MAGNOLIA AVE | 20 OF 24 |
| CT2524 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - MAGNOLIA AVE | 21 OF 24 |
| CT2531 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - PETERSON RD | 22 OF 24 |
| CT2532 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - GRADE SEPARATION PROFILE - PETERSON RD | 23 OF 24 |
| CT3070 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1109 | - |
| CV-T1109 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - ROADWAY/GRADE SEPARATION - TYPICAL CROSS SECTIONS | 24 OF 24 |

## ALIGNMENT L1 - POSO CREEK SUBSECTION

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| CB0130 | | POSO CREEK SUBSECTION - ALIGNMENT L1 - ROADWAY/GRADE SEPARATION - KEY MAP | 1 OF 1 |

## ALIGNMENT WS1 - THROUGH WASCO-SHAFTER SUBSECTION

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| CB0170 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1125 | - |
| CV-T1125 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY/GRADE SEPARATION - KEY MAP | 1 OF 67 |
| CT1900 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1132 | - |
| CV-T1132 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - MCCOMBS AVE | 2 OF 67 |
| CT1901 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - MCCOMBS AVE | 3 OF 67 |
| CT1903 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - KIMBERLINA RD | 4 OF 67 |
| CT1904 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - MERCED AVE | 5 OF 67 |
| CT1905 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - MERCED AVE | 6 OF 67 |
| CT1906 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - POPLAR AVE | 7 OF 67 |
| CT1907 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - POPLAR AVE | 8 OF 67 |
| CT1909 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - FRESNO AVE | 9 OF 67 |
| CT1910 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - FRESNO AVE | 10 OF 67 |
| CT1912 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - BURBANK ST & CHERRY AVE | 11 OF 67 |
| CT1913 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - BURBANK ST | 12 OF 67 |
| CT1915 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1126 | - |
| CV-T1126 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - 7TH STANDARD RD | 13 OF 67 |
| ~~CT1917~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - KRATZMEYER RD~~ | ~~14 OF 67~~ |
| ~~CT1919~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - RENFRO RD~~ | ~~15 OF 67~~ |
| ~~CT1920~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION LAYOUT - RENFRO RD~~ | ~~16 OF 67~~ |
| CT2900 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - MCCOMBS AVE | 17 OF 67 |
| CT2901 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - MCCOMBS AVE | 18 OF 67 |
| CT2902 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - ANNIN CONNECTOR & MCCOMBS CONNECTOR | 19 OF 67 |
| CT2903 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - KIMBERLINA RD | 20 OF 67 |
| CT2904 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - MERCED AVE | 21 OF 67 |
| CT2905 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - MERCED AVE | 22 OF 67 |
| CT2906 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - POPLAR AVE | 23 OF 67 |
| CT2907 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - POPLAR AVE & POPLAR CONNECTOR | 24 OF 67 |
| CT2909 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - FRESNO AVE | 25 OF 67 |
| CT2910 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - FRESNO AVE | 26 OF 67 |
| CT2912 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - BURBANK ST | 27 OF 67 |
| CT2913 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - BURBANK ST | 28 OF 67 |
| CT2914 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - BURBANK CONNECTOR | 29 OF 67 |
| ~~CT2915~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - 7TH STANDARD RD~~ | ~~30 OF 67~~ |
| ~~CT2917~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - KRATZMEYER RD~~ | ~~31 OF 67~~ |
| ~~CT2918~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - KRATZMEYER RD & KRATZMEYER CONNECTOR~~ | ~~32 OF 67~~ |
| ~~CT2919~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - RENFRO RD~~ | ~~33 OF 67~~ |
| ~~CT2920~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - GRADE SEPARATION PROFILE - RENFRO RD~~ | ~~34 OF 67~~ |
| CR1900 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY | 35 OF 67 |
| CR1901 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY | 36 OF 67 |
| CR1902 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY | 37 OF 67 |
| CR1903 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY | 38 OF 67 |
| CR1904 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY | 39 OF 67 |
| CR1905 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY | 40 OF 67 |
| CR1906 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY | 41 OF 67 |
| CR1907 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1127 | - |
| CV-T1127 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY | 42 OF 67 |
| CR1908 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1128 | - |
| CV-T1128 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY | 43 OF 67 |
| ~~CR1909~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY~~ | ~~44 OF 67~~ |
| ~~CR1910~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY~~ | ~~45 OF 67~~ |
| ~~CR1911~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY~~ | ~~46 OF 67~~ |
| ~~CR1912~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY~~ | ~~47 OF 67~~ |
| ~~CR1913~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY~~ | ~~48 OF 67~~ |
| ~~CR1914~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY LAYOUT - SANTA FE WAY~~ | ~~49 OF 67~~ |
| CR2900 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY | 50 OF 67 |
| CR2901 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY | 51 OF 67 |
| CR2902 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY | 52 OF 67 |

FOR CONTINUATION SEE DRAWING GE-A0031

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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|---|---|---|---|---|---|
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DESIGNED BY P. TONKIN
DRAWN BY P. TONKIN
CHECKED BY K. SEYMOUR
IN CHARGE S. BURGES
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ROADWAY & GRADE SEPARATION
INDEX OF SHEETS
SHEET 1 OF 2

CONTRACT NO. HSR 06-0003
DRAWING NO. GE-A0029
SCALE NO SCALE
SHEET NO. 2 OF 5

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# ALIGNMENT WS1 - THROUGH WASCO-SHAFTER SUBSECTION CONT'D

FOR CONTINUATION, SEE DRAWING GE-A0029

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| CR2903 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY | 53 OF 67 |
| CR2904 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY | 54 OF 67 |
| CR2905 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY | 55 OF 67 |
| CR2906 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY | 56 OF 67 |
| CR2907 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1129 | - |
| CV-T1129 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY | 57 OF 67 |
| CR2908 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1130 | - |
| CV-T1130 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY | 58 OF 67 |
| ~~CR2909~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY~~ | ~~59 OF 67~~ |
| ~~CR2910~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY~~ | ~~60 OF 67~~ |
| ~~CR2911~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY~~ | ~~61 OF 67~~ |
| ~~CR2912~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY~~ | ~~62 OF 67~~ |
| ~~CR2913~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY~~ | ~~63 OF 67~~ |
| ~~CR2914~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY~~ | ~~64 OF 67~~ |
| ~~CR2915~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY PROFILE - SANTA FE WAY~~ | ~~65 OF 67~~ |
| CT3130 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1133 | - |
| CV-T1133 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY/GRADE SEPARATION - TYPICAL CROSS SECTIONS | 66 OF 67 |
| CT3131 | SS | THIS SHEET IS SUPERSEDED AND IS NOT IN THIS PACKAGE - REPLACED BY CV-T1131 | - |
| CV-T1131 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - ROADWAY/GRADE SEPARATION - TYPICAL CROSS SECTIONS | 67 OF 67 |

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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| REV | DATE | BY | CHK | APP | DESCRIPTION |
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DESIGNED BY P. TONKIN
DRAWN BY P. TONKIN
CHECKED BY K. SEYMOUR
IN CHARGE S. BURGES
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ROADWAY & GRADE SEPARATION
INDEX OF SHEETS
SHEET 2 OF 2

CONTRACT NO. HSR 06-0003
DRAWING NO. GE-A0031
SCALE NO SCALE
SHEET NO. 3 OF 5

## A

| | |
|---|---|
| AB | AGGREGATE BASE |
| ABBC | ASBESTOS BONDED BITUMINOUS COATED |
| ABM | AIR-BLOWN MORTAR |
| ABN | ABANDON |
| ABUT | ABUTMENT |
| AC | ASPHALT CONCRETE |
| ACB | ASPHALT CONCRETE BASE |
| ACP | ASBESTOS CEMENT PIPE |
| ADL | ADDED DEAD LOAD |
| ADJ | ADJUST |
| AFES | ALTERNATIVE FLARED END SECTION |
| AHD | AHEAD |
| ALT | ALTERNATE |
| AM | TIME FROM MIDNIGHT TO NOON |
| AP | ALTERNATIVE PIPE |
| APC | ALTERNATIVE PIPE CULVERT |
| APPROX | APPROXIMATE |
| APU | ALTERNATIVE PIPE UNDERDRAIN |
| ARS | ACCELERATION RESPONSE SPECTRUM |
| AR | ACCESS RESTRICTION |
| AS | AGGREGATE SUBBASE |
| ASRP | ALUMINUM SPIRAL RIB PIPE |
| ASSY | ASSEMBLY |
| ATPB | ASPHALT TREATED PERMEABLE BASE |
| ATPM | ASPHALT TREATED PERMEABLE MATERIAL |
| AVE | AVENUE |
| AVG | AVERAGE |
| @ | AT |

## B

| | |
|---|---|
| BAGR | BRIDGE APPROACH GUARD RAILING |
| BB | BEGINNING OF BRIDGE |
| BC | BEGIN HORIZONTAL CURVE |
| BCC | BALANCED CANTILEVER CONSTRUCTION |
| BCR | BEGIN CURB RETURN |
| BEG | BEGIN |
| BIT CTD | BITUMINOUS COATED |
| BK | BACK |
| BKF | BACKFILL |
| BLDG | BUILDING |
| BLM | BRIDGE-LOG MILE |
| BLVD | BOULEVARD |
| BM | BENCH MARK |
| BND | BOUND |
| BNSF | BURLINGTON NORTH & SANTA FE |
| BOT | BOTTOM |
| BR | BRIDGE |
| BRG | BEARING |
| BTU | BRITISH THERMAL UNIT |
| BVC | BEGIN VERTICAL CURVE |
| BW | BARBED WIRE |

## C

| | |
|---|---|
| CAA | CABLE ANCHOR ASSEMBLY |
| CAP | CORRUGATED ALUMINUM PIPE |
| CAPA | CORRUGATED ALUMINUM PIPE ARCH |
| CAS | CONSTRUCTION AREA SIGN |
| CB | CONCRETE BARRIER |
| CBW | CONCRETE BLOCK WALL |
| C-C | CENTER TO CENTER |

## C CONTINUED

| | |
|---|---|
| CHSRA | CALIFORNIA HIGH SPEED RAIL AUTHORITY |
| CHST | CALIFORNIA HIGH SPEED TRAIN |
| CHSR | CALIFORNIA HIGH SPEED RAIL |
| CG | CENTER OF GRAVITY |
| CHNL | CHANNEL |
| CI | CAST IRON |
| CIDH | CAST-IN-DRILLED-HOLE |
| CIP,C-I-P | CAST-IN-PLACE, CAST IRON PIPE |
| CIPCP | CAST IN PLACE CONCRETE PIPE |
| CISS | CAST-IN-STEEL-SHELL |
| CJP | COMPLETE JOINT PENETRATION |
| CL | CENTERLINE, CLASS |
| CL2 | CLASS 2 |
| CL-6 | CHAIN LINK FENCE (6 FT) |
| CLR | CLEAR, CLEARANCE |
| CM | CORRUGATED METAL |
| CMP | CORRUGATED METAL PIPE |
| CO | COUNTY |
| COL | COLUMN |
| CONC | CONCRETE |
| COND | CONDUIT |
| CONN | CONNECTOR |
| CONST | CONSTRUCT, CONSTRUCTION |
| CONT | CONTINUOUS |
| COORD | COORDINATE |
| CP | CLEARANCE POINT |
| CR | CREEK |
| CRCP | CONTINUOUS REINFORCED CONCRETE PAVEMENT |
| CRSP | CONCRETED ROCK SLOPE PROTECTION |
| CS | CURVE TO SPIRAL |
| CSP | CORRUGATED STEEL PIPE |
| CSPA | CORRUGATED STEEL PIPE ARCH |
| CTB | CEMENT TREATED BASE |
| CTPB | CEMENT TREATED PERMEABLE BASE |
| CTPM | CEMENT TREATED PERMEABLE MATERIAL |
| CTRS | CENTERS |
| CVFPB | CENTRAL VALLEY FLOOD PROTECTION BOARD |
| CULV | CULVERT |
| ℄ | CENTERLINE |

## D

| | |
|---|---|
| D | DEPTH |
| DD | DOWNDRAIN, DIRECTIVE DRILLING |
| DBL | DOUBLE |
| DEG | DEGREE |
| DEL | DELINEATOR |
| DET | DETAIL, DETOUR |
| DF | DOUGLAS FIR |
| DI | DRAINAGE INLET, DROP INLET |
| DIA | DIAMETER |
| DIAPH | DIAPHRAGM |
| DIST | DISTANCE, DISTRICT |
| DMBB | DOUBLE METAL BEAM BARRIER |
| DR | DRIVE |
| DTBB | DOUBLE THRIE BEAM BARRIER |
| DWY | DRIVEWAY |

## E

| | |
|---|---|
| E | EAST, EASTING |
| EA | ACTUAL SUPERELEVATION |
| EU | UNBALANCED SUPERELEVATION |

## E CONTINUED

| | |
|---|---|
| EASE | EASEMENT |
| EB | END OF BRIDGE, EASTBOUND |
| EC | END HORIZONTAL CURVE |
| ECR | END CURB RETURN |
| ED | EDGE DRAIN |
| EDC | EDGE DRAIN CLEANOUT |
| EDO | EDGE DRAIN OUTLET |
| EDV | EDGE DRAIN VENT |
| ELEC | ELECTROLIER |
| ELECT | ELECTRIC |
| ELEV | ELEVATION |
| EMB | EMBANKMENT |
| ENGR | ENGINEER |
| EOD | EDGE OF DECK |
| EP | EDGE OF PAVEMENT |
| EQ | EQUATION, EQUAL |
| ES | EDGE OF SHOULDER |
| ETW | EDGE OF TRAVELED WAY |
| EVC | END VERTICAL CURVE |
| EW | ENDWALL |
| EXC | EXCAVATION |
| EXIST, EX. | EXISTING |
| EXP | EXPANSION |
| EXP JT | EXPANSION JOINT |
| EXWY | EXPRESSWAY |
| EXT | EXTERIOR |

## F

| | |
|---|---|
| F & C | FRAME AND COVER |
| F & G | FRAME AND GRATE |
| FB | FLOOR BEAM |
| F-B | FRESNO TO BAKERSFIELD |
| FDN | FOUNDATION |
| FEBT | FACING EASTBOUND TRAFFIC |
| FES | FLARED END SECTION |
| FF | FILTER FABRIC |
| FG | FINISHED GRADE |
| FH | FIRE HYDRANT |
| FIG | FIGURE |
| FL | FLOW LINE |
| FNBT | FACING NORTHBOUND TRAFFIC |
| FOC | FACE OF CONCRETE |
| FR RD | FRONTAGE ROAD |
| FS | FAR SIDE, FINISHED SURFACE |
| FSBT | FACING SOUTHBOUND TRAFFIC |
| FT | FOOT, FEET |
| FTG | FOOTING |
| FWBT | FACING WESTBOUND TRAFFIC |
| FWY | FREEWAY |
| FPLM | FULL SPAN PRECAST LAUNCHING METHOD |

## G

| | |
|---|---|
| G | ACCELERATION DUE TO GRAVITY |
| GA | GAGE |
| GALV | GALVANIZED |
| GP | GRADING PLANE |
| GR | GUARD RAILING |
| GSP | GALVANIZED STEEL PIPE |
| GTR | GUTTER |

## H

| | |
|---|---|
| H | HEIGHT |
| HR | HOUR |
| HD | HORIZONTAL DRAIN |
| HDWL | HEADWALL |
| HEX HD | HEXAGONAL HEAD |
| HMA | HOT MIXED ASPHALT |
| HORIZ | HORIZONTAL |
| HP | HINGE POINT, HORSEPOWER |
| HPS | HIGH PERFORMANCE STEEL |
| HS | HIGH STRENGTH |
| HST | HIGH SPEED TRAIN |
| HSR | HIGH SPEED RAIL |
| HW | HEADWALL, HIGH WATER |
| HWM | HIGH WATER MARK |
| HWY | HIGHWAY |

## I

| | |
|---|---|
| IB | IMPORTED BORROW |
| ID | INSIDE DIAMETER |
| IF | INSIDE FACE |
| IN | INCH, INCHES |
| INT | INTERIOR |
| INV | INVERT |
| IRR | IRRIGATION |

## J

| | |
|---|---|
| JCT | JUNCTION |
| JP | JOINT POLE |
| JPCP | JOINTED PLAIN CONCRETE PAVEMENT |
| JS | JUNCTION STRUCTURE |
| JT | JOINT |

## K

| | |
|---|---|
| K | DISTANCE TO ACHIEVE 1% GRADE CHANGE |

## L

| | |
|---|---|
| L | LENGTH |
| LAT | LATITUDE |
| LCB | LEAN CONCRETE BASE |
| LN | LANE |
| LOC | LOCATION |
| LOL | LAYOUT LINE |
| LONG | LONGITUDE |
| LONGIT | LONGITUDINAL |
| LS | LENGTH OF SPIRAL |
| LC | LENGTH OF CURVE |
| LT | LEFT |

## M

| | |
|---|---|
| MAINT | MAINTENANCE |
| MAX | MAXIMUM |
| MB | METAL BEAM |
| MBB | METAL BEAM BARRIER |
| MBGR | METAL BEAM GUARD RAILING |
| MED | MEDIAN |
| M-F | MERCED TO FRESNO |
| MH | MANHOLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MISC I & S | MISCELLANEOUS IRON AND STEEL |
| MKR | MARKER |
| M/L | MAIN LINE (RAILWAY) |

## M CONTINUED

| | |
|---|---|
| MOD | MODIFIED, MODIFY |
| MON | MONUMENT |
| MP | METAL PLATE |
| MPGR | METAL PLATE GUARD RAILING |
| MPH | MILES PER HOUR |
| MR | MOVEMENT RATING |
| MSE | MECHANICALLY STABILIZED EARTH |
| MTL | MATERIAL |
| MSS | MOVING SCAFFOLDING SYSTEM |

## N

| | |
|---|---|
| N | NORTH, NORTHING |
| NB | NORTHBOUND |
| NO. | NUMBER (MUST HAVE PERIOD) |
| NOS. | NUMBERS (MUST HAVE PERIOD) |
| NPS | NOMINAL PIPE SIZE |
| NS | NEAR SIDE |
| NTS | NOT TO SCALE |
| N/A | NOT APPLICABLE |

## O

| | |
|---|---|
| OBLR | OBLITERATE |
| OC | OVERCROSSING |
| OCS | OVERHEAD CONTACT SYSTEM |
| OD | OUTSIDE DIAMETER |
| OF | OUTSIDE FACE |
| OG | ORIGINAL GROUND |
| OGAC | OPEN GRADED ASPHALT CONCRETE |
| OH | OVERHEAD |
| O-O | OUT TO OUT |
| OPP | OPPOSITE |

## P

| | |
|---|---|
| P | PAGE |
| PAP | PERFORATED ALUMINUM PIPE |
| PB | PULL BOX |
| PC | POINT OF CURVATURE, PRECAST |
| PCC | POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE |
| PCP | PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE |
| PCVC | POINT OF COMPOUND VERTICAL CURVE |
| PED | PEDESTRIAN |
| PED OC | PEDESTRIAN OVERCROSSING |
| PED UC | PEDESTRIAN UNDERCROSSING |
| PERM MTL | PERMEABLE MATERIAL |
| PG | PROFILE GRADE |
| PI | POINT OF INTERSECTION |
| PJP | PARTIAL JOINT PENETRATION |
| ℙ,PL | PLATE |
| P/L | PROPERTY LINE |
| PM | POST MILE, TIME FROM NOON TO MIDNIGHT |
| PN | PAVING NOTCH |
| POB | POINT OF BEGINNING |
| POC | POINT OF HORIZONTAL CURVE |
| POE | POINT OF ENDING |
| POT | POINT OF TANGENT |
| POVC | POINT OF VERTICAL CURVE |
| PP | PIPE PILE, PLASTIC PIPE, POWER POLE |
| PPL | PREFORMED PERMEABLE LINER |
| PPP | PERFORATED PLASTIC PIPE |
| PRC | POINT OF REVERSE CURVE |

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|---|---|---|---|---|---|

DESIGNED BY K. SEYMOUR
DRAWN BY P. TONKIN
CHECKED BY D. HUNT
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
California High-Speed Train

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
GENERAL
ABBREVIATIONS AND LEGENDS
SHEET 1 OF 2

CONTRACT NO. HSR 06-0003
DRAWING NO. CB0010
SCALE NO SCALE
SHEET NO. 4 OF 5

## P CONTINUED

| | |
|---|---|
| PRF | PAVEMENT REINFORCING FABRIC |
| PRVC | POINT OF REVERSE VERTICAL CURVE |
| PS&E | PLANS, SPECIFICATIONS AND ESTIMATES |
| PS, P/S | PRESTRESSED, PARALLEL STATION |
| PSP | PERFORATED STEEL PIPE |
| PT | POINT OF TANGENCY |
| PVC | POLYVINYL CHLORIDE |
| PVI | POINT OF VERTICAL INTERSECTION |
| PVMT | PAVEMENT |
| PVP | MAINTENANCE VEHICLE PULLOUT |

## Q

| | |
|---|---|
| QTY | QUANTITY |

## R

| | |
|---|---|
| R | RADIUS |
| R & D | REMOVE AND DISPOSE |
| R & S | REMOVE AND SALVAGE |
| R/C | RATE OF CHANGE |
| RCA | REINFORCED CONCRETE ARCH |
| RCB | REINFORCED CONCRETE BOX |
| RCP | REINFORCED CONCRETE PIPE |
| RCPA | REINFORCED CONCRETE PIPE ARCH |
| RD | ROAD |
| REINF | REINFORCED, REINFORCEMENT, REINFORCING |
| REL | RELOCATE |
| REPL | REPLACEMENT |
| RET | RETAINING |
| REV | REVISED |
| RDWY | ROADWAY |
| RM | ROAD-MIXED |
| RP | RADIUS POINT, REFERENCE POINT |
| RR | RAILROAD |
| RSP | ROCK SLOPE PROTECTION |
| RT | RIGHT |
| RTE | ROUTE |
| RW | REDWOOD, RETAINING WALL |
| R/W, ROW | RIGHT OF WAY |
| RWY | RAILWAY |

## S

| | |
|---|---|
| S | SOUTH, SUPPLEMENT |
| SAE | STRUCTURE APPROACH EMBANKMENT |
| SALV | SALVAGE |
| SAPP | STRUCTURAL ALUMINUM PLATE PIPE |
| SB | SOUTHBOUND |
| SC | SPIRAL TO CURVE |
| SCSP | SLOTTED CORRUGATED STEEL PIPE |
| SD | STORM DRAIN |
| SEC | SECOND |
| SECT | SECTION |
| SEP | SEPARATION |
| SG | SUBGRADE |
| SHLD | SHOULDER |
| SHT | SHEET |
| SIM | SIMILAR |
| S | STATION LINE |
| SM | SELECTED MATERIAL |
| SPEC | SPECIAL, SPECIFICATIONS |
| SPP | SLOTTED PLASTIC PIPE |
| SS | SLOPE STAKE, SPIRAL TO SPIRAL |

## S CONTINUED

| | |
|---|---|
| SSBM | STRAP AND SADDLE BRACKET METHOD |
| SSD | STRUCTURAL SECTION DRAIN |
| SSPA | STRUCTURAL STEEL PLATE ARCH |
| SSPP | STRUCTURAL STEEL PLATE PIPE |
| SSPPA | STRUCTURAL STEEL PLATE PIPE ARCH |
| SSRP | STEEL SPIRAL RIB PIPE |
| SR | STATE ROUTE |
| ST | STREET, SPIRAL TO TANGENT |
| STA | STATION |
| STBB | SINGLE THRIE BEAM BARRIER |
| STD | STANDARD |
| STR | STRUCTURE |
| SRS | STAND ALONE RADIO SITE |
| SURF | SURFACING |
| SW | SIDEWALK, SOUND WALL |
| SWR | SEWER |
| SWS | SWITCHING STATION |
| SYM | SYMMETRICAL |
| S4S | SURFACE 4 SIDES |
| SJVR | SAN JOAQUIN VALLEY RAILROAD |

## T

| | |
|---|---|
| T | SEMI-TANGENT |
| TAB | TABLET |
| TAN | TANGENT |
| TBB | THRIE BEAM BARRIER |
| TBR | TIMBER |
| TC | TOP OF CURB, TANGENT TO CURVE |
| TCB | TRAFFIC CONTROL BOX |
| TEL | TELEPHONE |
| TEMP | TEMPORARY |
| TG | TOP OF GRADE |
| TOT | TOTAL |
| TM | TECHNICAL MEMORANDUM |
| TP | TELEPHONE POLE |
| TPB | TREATED PERMEABLE BASE |
| TPM | TREATED PERMEABLE MATERIAL |
| TPSS | TRACTION POWER SUPPLY STATION |
| TRANS | TRANSITION, TRANSVERSE |
| TS | TRAFFIC SIGNAL, TUBULAR STEEL, TANGET TO SPIRAL |
| TYP | TYPICAL |
| TOR | TOP OF RAIL |

## U

| | |
|---|---|
| UC | UNDERCROSSING |
| UD | UNDERDRAIN |
| UON | UNLESS OTHERWISE NOTED |
| UP | UNDERPASS |
| UPRR | UNION PACIFIC RAILROAD |
| USFWS | UNITED STATES FISH AND WILDLIFE SERVICE |

## V

| | |
|---|---|
| V | VALVE, DESIGN SPEED |
| VAR | VARIABLE |
| VC | VERTICAL CURVE |
| VCP | VITRIFIED CLAY PIPE |
| VERT | VERTICAL |
| VIA | VIADUCT |
| VOL | VOLUME |

## W

| | |
|---|---|
| W | WEST, WIDTH |
| WB | WESTBOUND |
| WH | WEEP HOLE |
| WM | WIRE MESH |
| WS | WATER SURFACE |
| WSP | WELDED STEEL PIPE |
| WT | WEIGHT |
| WV | WATER VALVE |
| WW | WINGWALL |
| WWLOL | WINGWALL LAYOUT LINE |
| W/ | WITH |

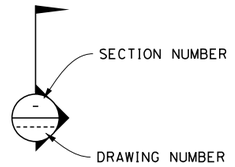
## X

| | |
|---|---|
| X SEC | CROSS SECTION |
| XING | CROSSING |

## Y

| | |
|---|---|
| YR | YEAR |
| YRS | YEARS |

## LEGEND




-E- PROPOSED ELECTRICITY LINE

-e- EXISTING ELECTRICITY LINE

-e-(oh)- EXISTING OVERHEAD ELECTRICITY LINE

-E-(OH)- PROPOSED OVERHEAD ELECTRICTY LINE

PROPOSED HST RIGHT OF WAY

PROPOSED HST TRACK CENTERLINE

RETAINING WALL

TOE OF SLOPE / TOP OF CUT

CONTROL LINE EXAMPLE "A" LINE

255+00 260+00 265+00

OR TRACK (PLAN AND ELEVATION)

REL TRACK TO BE REMOVED AND RELOCATED PER BNSF

REMOVE BASE & SURFACING

SOUND BARRIER (POTENTIAL)

DIRECTION OF FLOW

WATER SURFACE

## GENERAL NOTES

1. TRACK PROFILE IS DESIGNED AS TOP OF THE LOW RAIL. VERTICAL CLEARANCE REQUIREMENTS ARE MEASURED FROM THE TOP OF THE HIGH RAIL ON SUPERELEVATED TRACK. THE CLEARANCE ENVELOPES SHOWN DEMONSTRATE THE MINIMUM CLEARANCE REQUIREMENTS.

2. MINIMUM VERTICAL CLEARANCE REQUIREMENTS TO CANALS AND DITCHES ARE NOT KNOWN. FURTHER CONSULTATION WITH THE WATERCOURSE OWNERS WILL BE REQUIRED TO DETERMINE NECESSARY CLEARANCES.

3. THE FOLLOWING ARE ROADWAY DESIGN STANDARDS AND GUIDELINES:
   A. CALTRANS HIGHWAY DESIGN MANUAL (2012)
   B. AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (2011)
   C. AASHTO ROADSIDE DESIGN GUIDE (2011)
   D. APPLICABLE LOCAL DESIGN STANDARD AND GUIDELINES (I.E., CITY OF FRESNO)

4. THE FEMA FLOODPLAIN BOUNDARIES ARE CALLED OUT AS "LIMIT OF 100YR FEMA FLOODPLAIN". THE LIMITS OF THE MODELED 100 YEAR WATER SURFACE ELEVATIONS (WSE) ARE APPROXIMATE AND ARE MARKED WITH THE NAME OF THE WATERBODY ASSOCIATED WITH THE MODELED FLOODING, E.G. "LIMIT OF POSO CREEK FLOODPLAIN".

5. THE STRUCTURE DESIGN ASSUMES THAT THE DEPTH FROM TOR TO TOP OF DECK IS 2'-6" THROUGHOUT. HOWEVER, WHERE BALLASTED TRACK FORM IS USED, THE HEIGHT FROM TOR TO DECK SHALL BE 2'-9" PLUS AN ALLOWANCE FOR WATERPROOF MEMBRANE, AND PROTECTION LAYER IF REQUIRED. FOR SLAB TRACKFORM, THE HEIGHT FROM TOR TO DECK SHALL BE 2'-6" PLUS AN ALLOWANCE FOR WATERPROOF MEMBRANE AND PROTECTION LAYER IF REQUIRED.

6. WHERE THE VERTICAL ALIGNMENT GRADE IS LESS THAN 0.5% THE UPPER SURFACE OF THE VIADUCT STRUCTURE SHALL BE PROFILED TO GIVE A MINIMUM LONGITUDINAL FALL OF 0.5%. TYPICALLY FOR A SPAN OF 120'-00" ON A 0% GRADE SECTION OF VIADUCT THIS COULD BE ACHIEVED BY MODIFYING THE CROSS SLOPE OF THE GIRDER LINEARLY BETWEEN 0.8% AT MID-SPAN TO 2% AT EACH END.

7. WHEN LATERAL SEPARATION BETWEEN THE CONVENTIONAL RAILROAD AND HST SYSTEM IS LESS THAN 102', A SITE SPECIFIC HAZARD ANALYSIS WILL BE CONDUCTED TO DETERMINE WHAT SPECIFIC COLLISION PROTECTION MEASURES MAY NEED TO BE IMPLEMENTED.

8. RIP-RAP PROTECTION IS REQUIRED FOR EMBANKMENTS WITHIN FEMA SPECIAL FLOOD HAZARD ZONES, IN ACCORDANCE WITH DESIGN CRITERIA.

9. HST ALIGNMENT CONTROL LINE IS DESIGNED AS THE CENTERLINE BETWEEN THE TWO MAINLINE TRACKS.

10. TRACK FORM USED IN TYPICAL SECTIONS IS INDICATIVE.

DIRECTION OF TRAFFIC

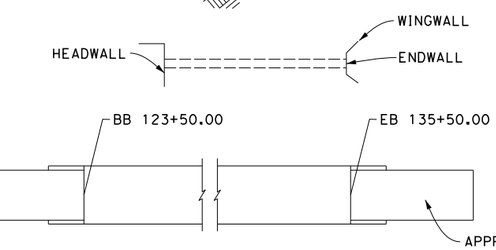
POINT OF MINIMUM VERTICAL CLEARANCE
ROAD CLOSURE (ROADWAYS)

[1] LINE DATA

(1) (3) CURVE DATA (ALIGNMENTS)
CURVE DATA (STRUCTURES)

EXISTING HIGH VOLTAGE TOWER FOOTPRINT

OG / ORIGINAL GROUND




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| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY K. SEYMOUR
DRAWN BY P. TONKIN
CHECKED BY D. HUNT
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
California High-Speed Train

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

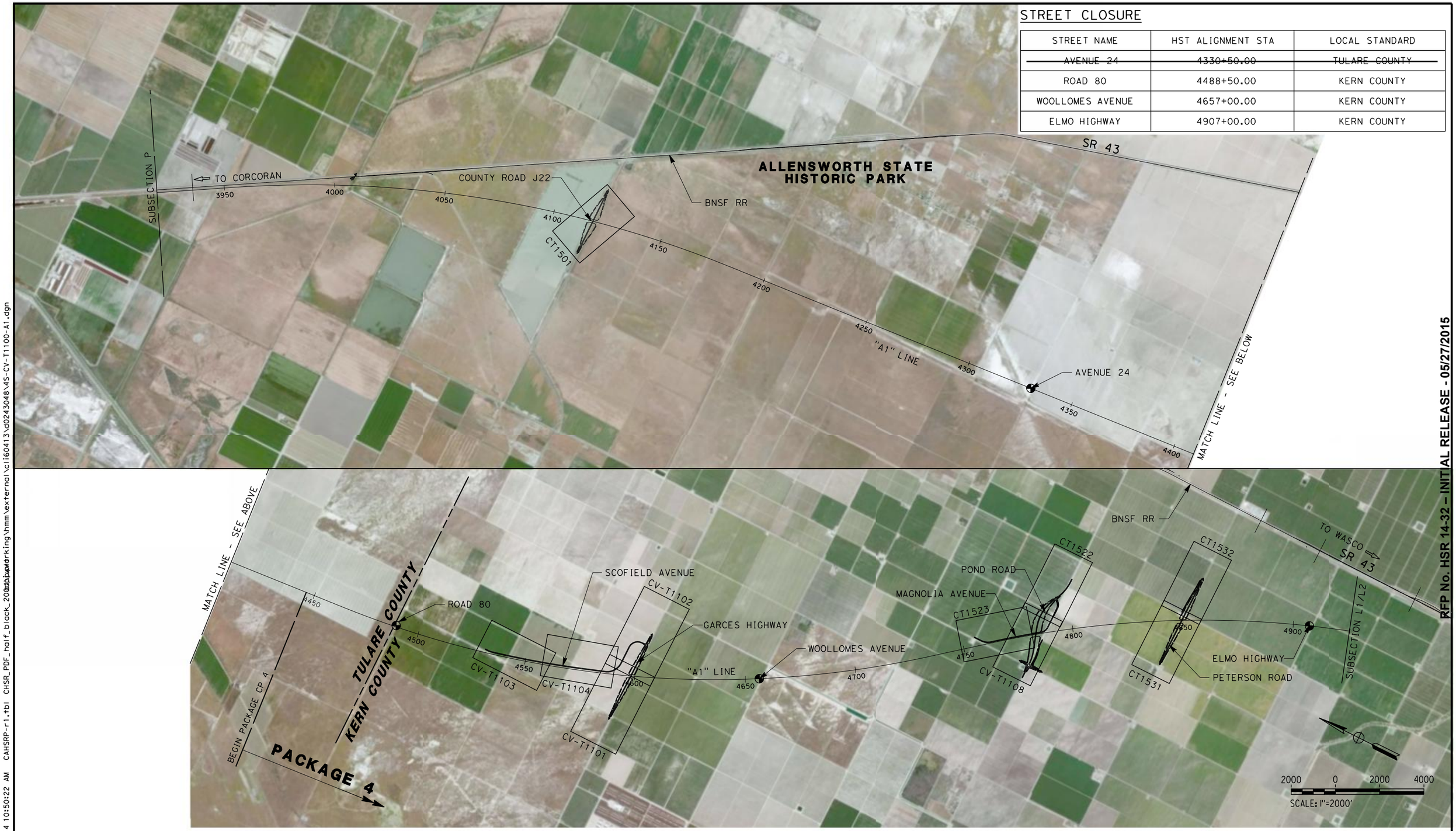
# CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD

GENERAL
ABBREVIATIONS AND LEGENDS
SHEET 2 OF 2

CONTRACT NO. HSR 06-0003
DRAWING NO. CB0011
SCALE NO SCALE
SHEET NO. 5 OF 5

## STREET CLOSURE

| STREET NAME | HST ALIGNMENT STA | LOCAL STANDARD |
|---|---|---|
| ~~AVENUE 24~~ | ~~4330+50.00~~ | ~~TULARE COUNTY~~ |
| ROAD 80 | 4488+50.00 | KERN COUNTY |
| WOOLLOMES AVENUE | 4657+00.00 | KERN COUNTY |
| ELMO HIGHWAY | 4907+00.00 | KERN COUNTY |




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| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
ROADWAY/GRADE SEPARATION
KEY MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1100
SCALE AS SHOWN
SHEET NO. 1 OF 24

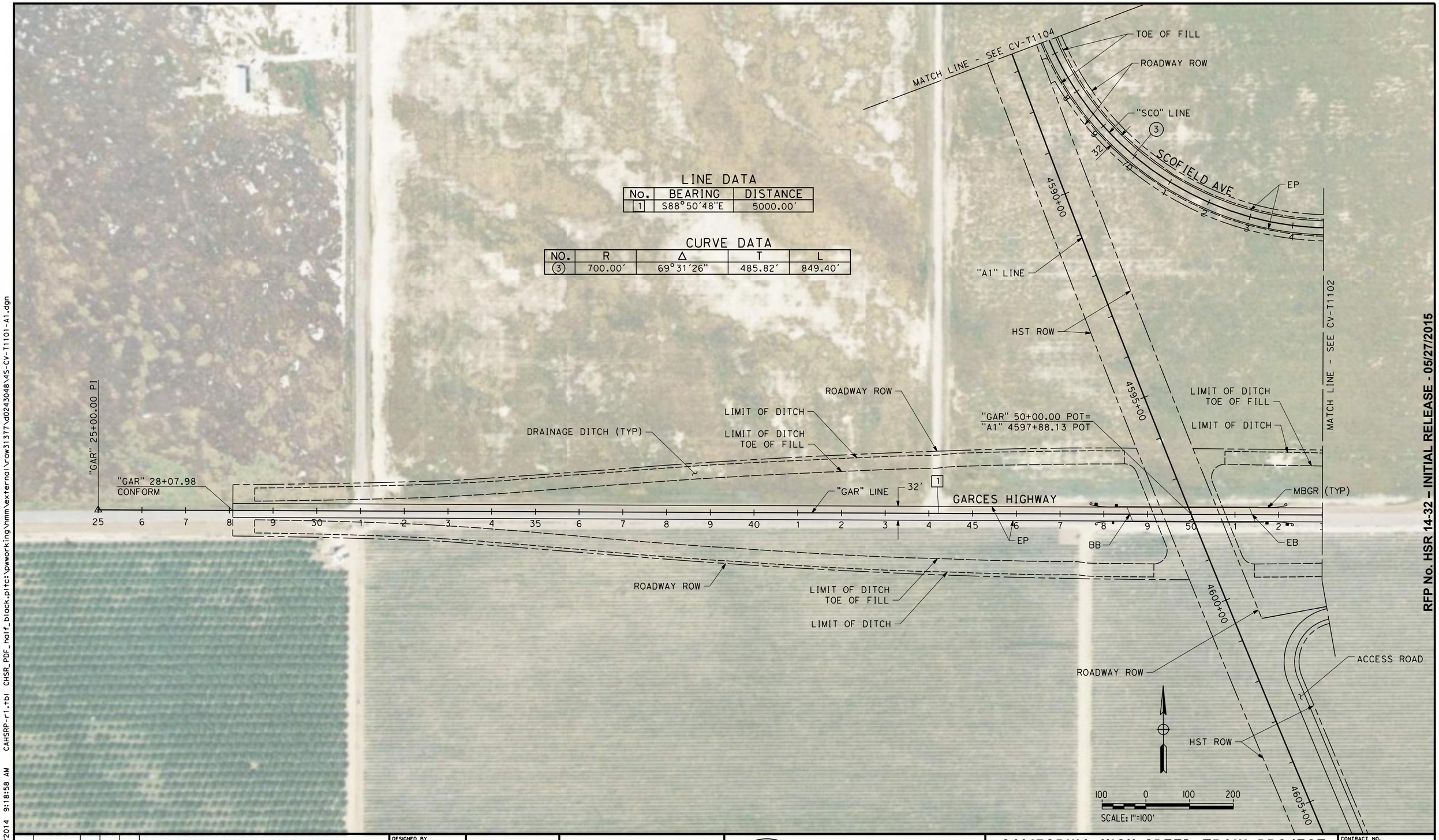
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## LINE DATA

| No. | BEARING | DISTANCE |
|---|---|---|
| 1 | S88°50'48"E | 5000.00' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| ③ | 700.00' | 69°31'26" | 485.82' | 849.40' |




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION LAYOUT
GARCES HWY

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1101
SCALE AS SHOWN
SHEET NO. 3 OF 24

8/6/2014 9:18:58 AM CAHSRP-r1.tbl CHSR_PDF_half_black.pltc: \pwworking\hmm\external\row31377\d0243048\d4S-CV-T1101-A1.dgn
row31377

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| (3) | 700.00′ | 70°33′50" | 495.30′ | 862.10′ |
| (4) | 425.00′ | 90°15′31" | 426.92′ | 669.51′ |

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 1 | S88°50′48"E | 5000.00′ |
| 5 | S89°06′19"E | 826.95′ |
| 6 | S01°09′38"W | 235.53′ |

"SCO" 74+88.90 EC

"SCO" 83+15.85 BC

SCOFIELD AVE

EP

ROADWAY ROW

5

4

3

MATCH LINE - SEE CV-T1101

TOE OF FILL

"SCO" 89+85.36 EC

"SCO" 92+20.94 PI
"GAR" 65+72.16 POT

6

LIMIT OF DITCH
TOE OF FILL

LIMIT OF DITCH

DRAINAGE DITCH (TYP)

R=60′

R=60′

"GAR" LINE

32′

"GAR" 71+57.42
CONFORM

GARCES HIGHWAY

"GAR" 75+00.00 PI

1

R=25′

R=25′

ROADWAY ROW

HST ROW

ACCESS ROAD

LIMIT OF DITCH
TOE OF FILL

LIMIT OF DITCH

TCE

100 0 100 200
SCALE: 1"=100′

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

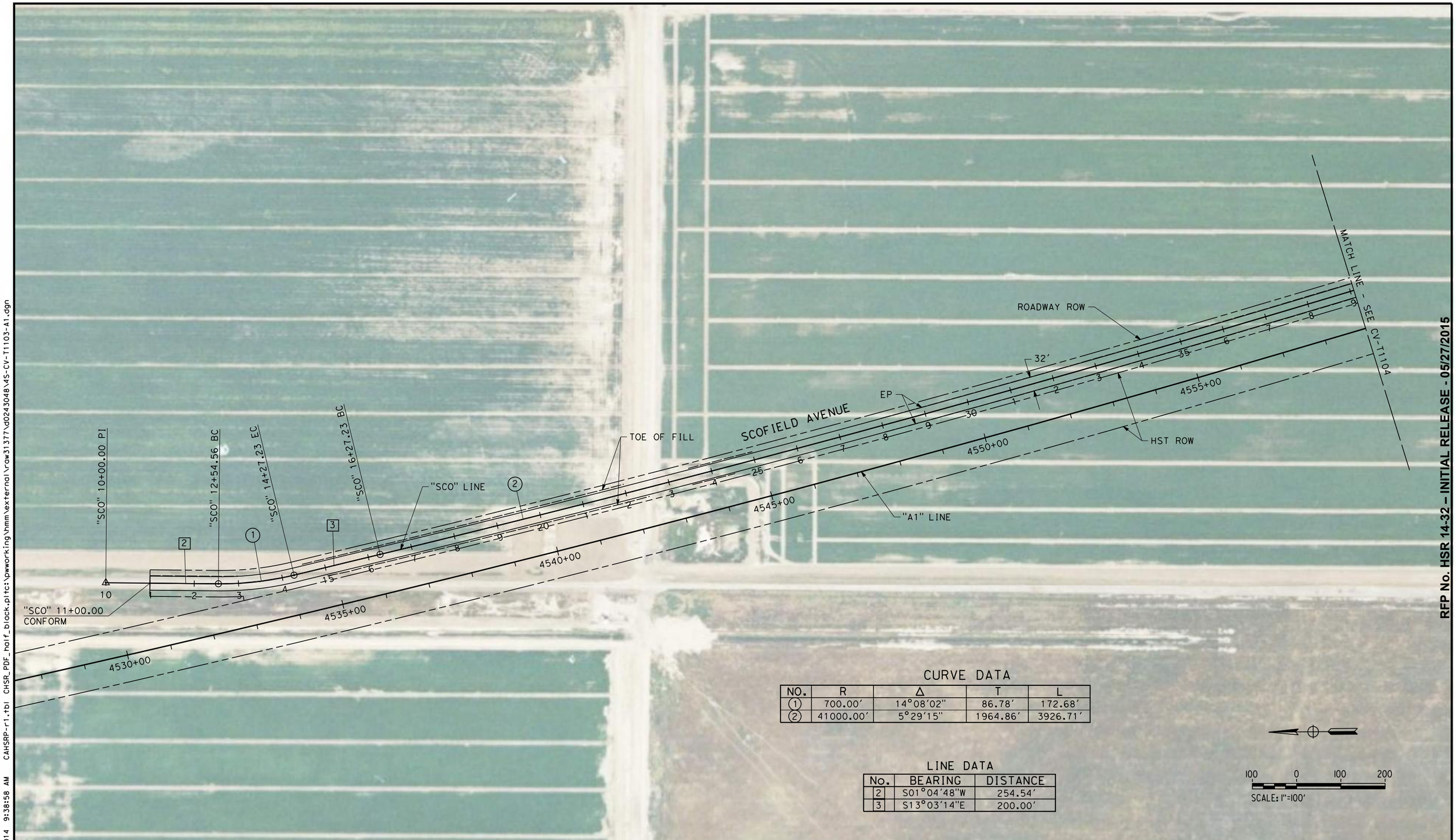
URS | HMM | ARUP
California High-Speed Train

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION LAYOUT
GARCES HWY

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1102
SCALE AS SHOWN
SHEET NO. 4 OF 24

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## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| (1) | 700.00′ | 14°08′02" | 86.78′ | 172.68′ |
| (2) | 41000.00′ | 5°29′15" | 1964.86′ | 3926.71′ |

## LINE DATA

| No. | BEARING | DISTANCE |
|---|---|---|
| 2 | S01°04′48"W | 254.54′ |
| 3 | S13°03′14"E | 200.00′ |

100 0 100 200
SCALE: 1"=100′

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
California High-Speed Train

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION LAYOUT
SCOFIELD AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1103
SCALE AS SHOWN
SHEET NO. 5 OF 24

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## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| (2) | 41000.00′ | 5°29′15" | 1964.86′ | 3926.71′ |
| (3) | 700.00′ | 69°31′26" | 485.81′ | 849.40′ |

## LINE DATA

| No. | BEARING | DISTANCE |
|---|---|---|
| 4 | S18°32′29"E | 1072.86′ |




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

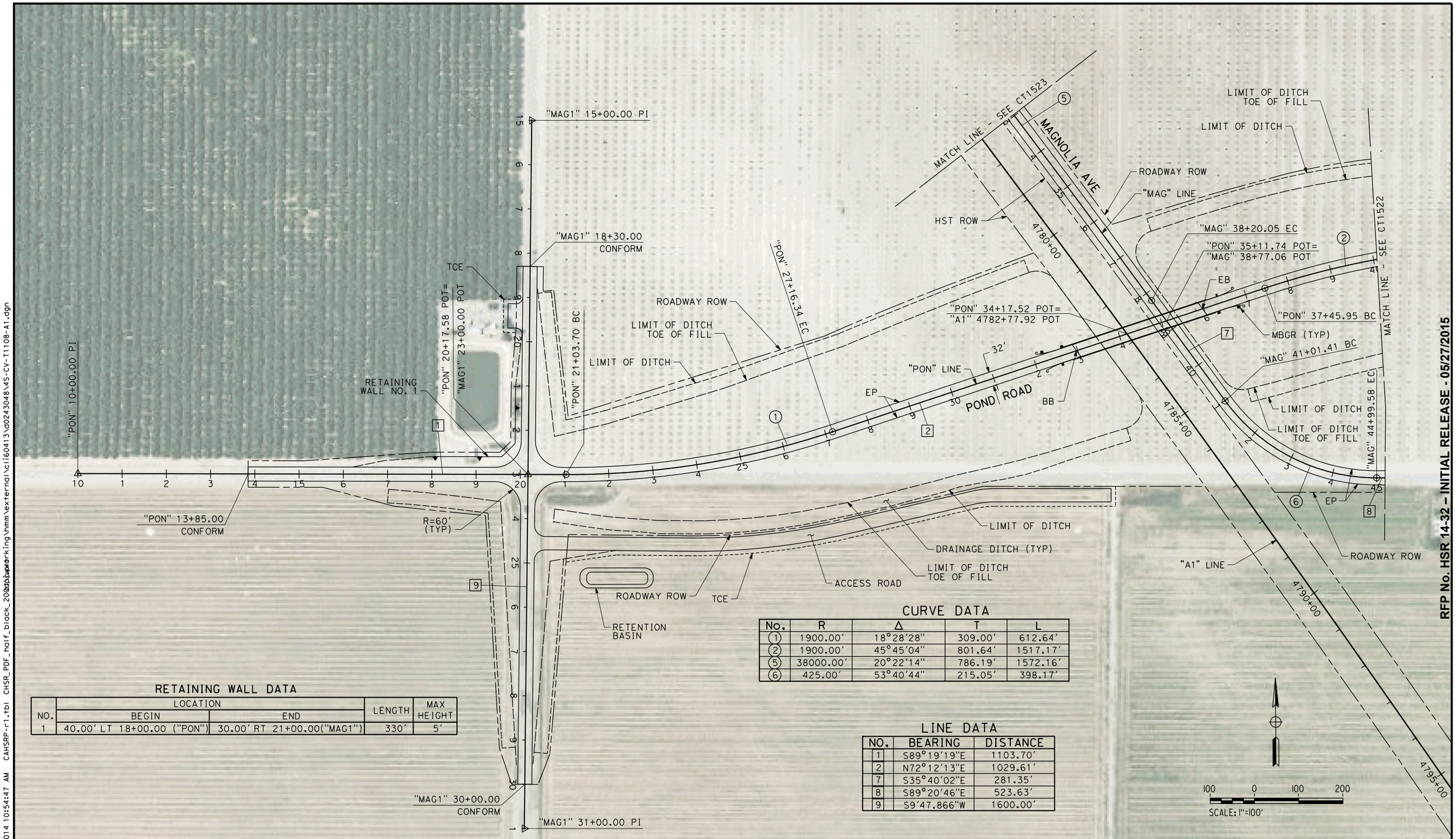
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION LAYOUT
SCOFIELD AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1104
SCALE AS SHOWN
SHEET NO. 6 OF 24

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## CURVE DATA

| No. | R | Δ | T | L |
|---|---|---|---|---|
| 1 | 1900.00′ | 18°28′28" | 309.00′ | 612.64′ |
| 2 | 1900.00′ | 45°45′04" | 801.64′ | 1517.17′ |
| 5 | 38000.00′ | 20°22′14" | 786.19′ | 1572.16′ |
| 6 | 425.00′ | 53°40′44" | 215.05′ | 398.17′ |

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 1 | S89°19′19"E | 1103.70′ |
| 2 | N72°12′13"E | 1029.61′ |
| 7 | S35°40′02"E | 281.35′ |
| 8 | S89°20′46"E | 523.63′ |
| 9 | S9′47.866"W | 1600.00′ |

## RETAINING WALL DATA

| NO. | LOCATION BEGIN | LOCATION END | LENGTH | MAX HEIGHT |
|---|---|---|---|---|
| 1 | 40.00′ LT 18+00.00 ("PON") | 30.00′ RT 21+00.00("MAG1") | 330′ | 5′ |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION LAYOUT
POND RD

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1108
SCALE AS SHOWN
SHEET NO. 7 OF 24

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

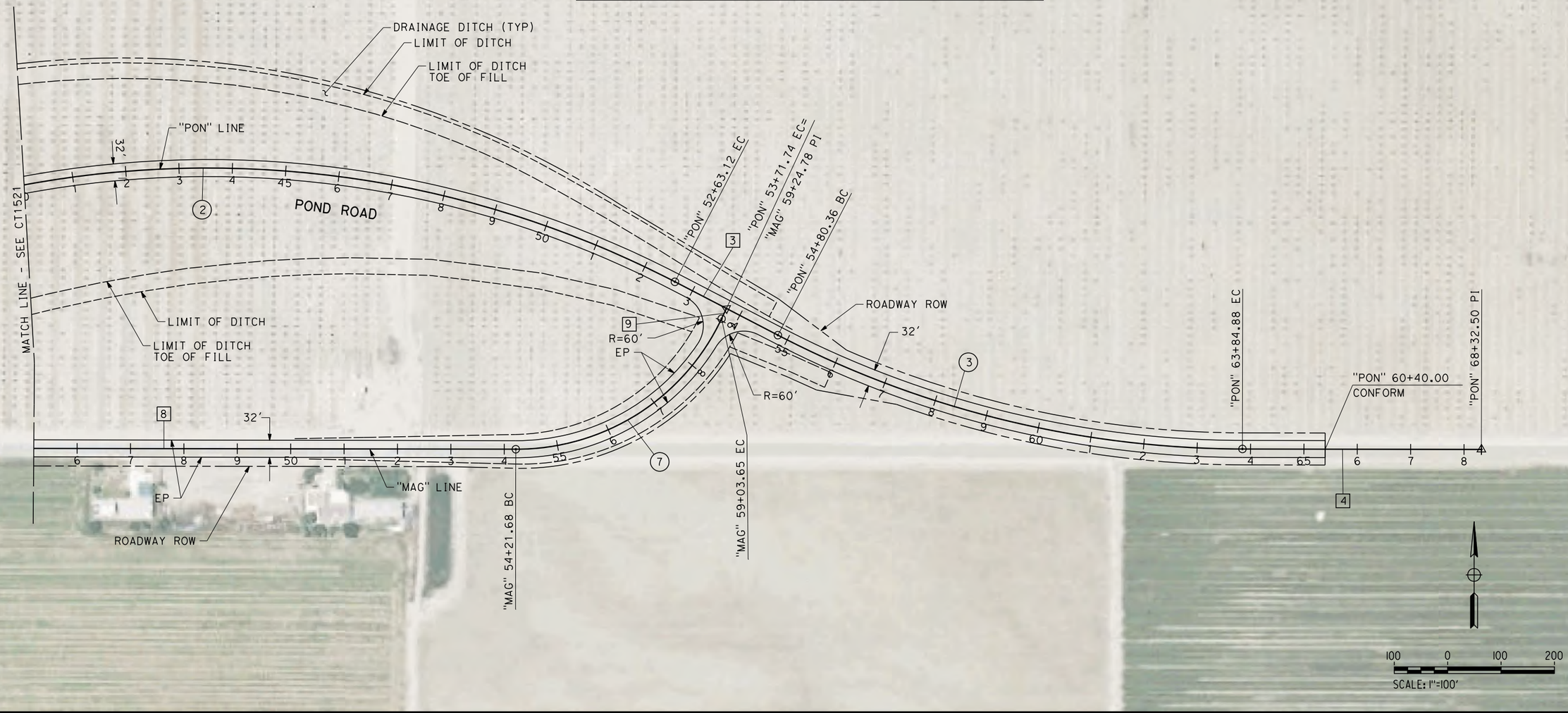
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## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 3 | S64°19'19"E | 210.01' |
| 4 | S89°19'19"E | 447.62' |
| 8 | S89°20'46"E | 922.11' |
| 9 | N25°40'41"E | 21.13' |

## CURVE DATA

| No. | R | Δ | T | L |
|---|---|---|---|---|
| (2) | 1900.00' | 45°45'04" | 801.64' | 1517.17' |
| (3) | 1900.00' | 27°16'36" | 461.00' | 904.53' |
| (7) | 425.00' | 64°58'33" | 270.63' | 481.97' |




| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION LAYOUT
POND RD

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1522
SCALE AS SHOWN
SHEET NO. 8 OF 24

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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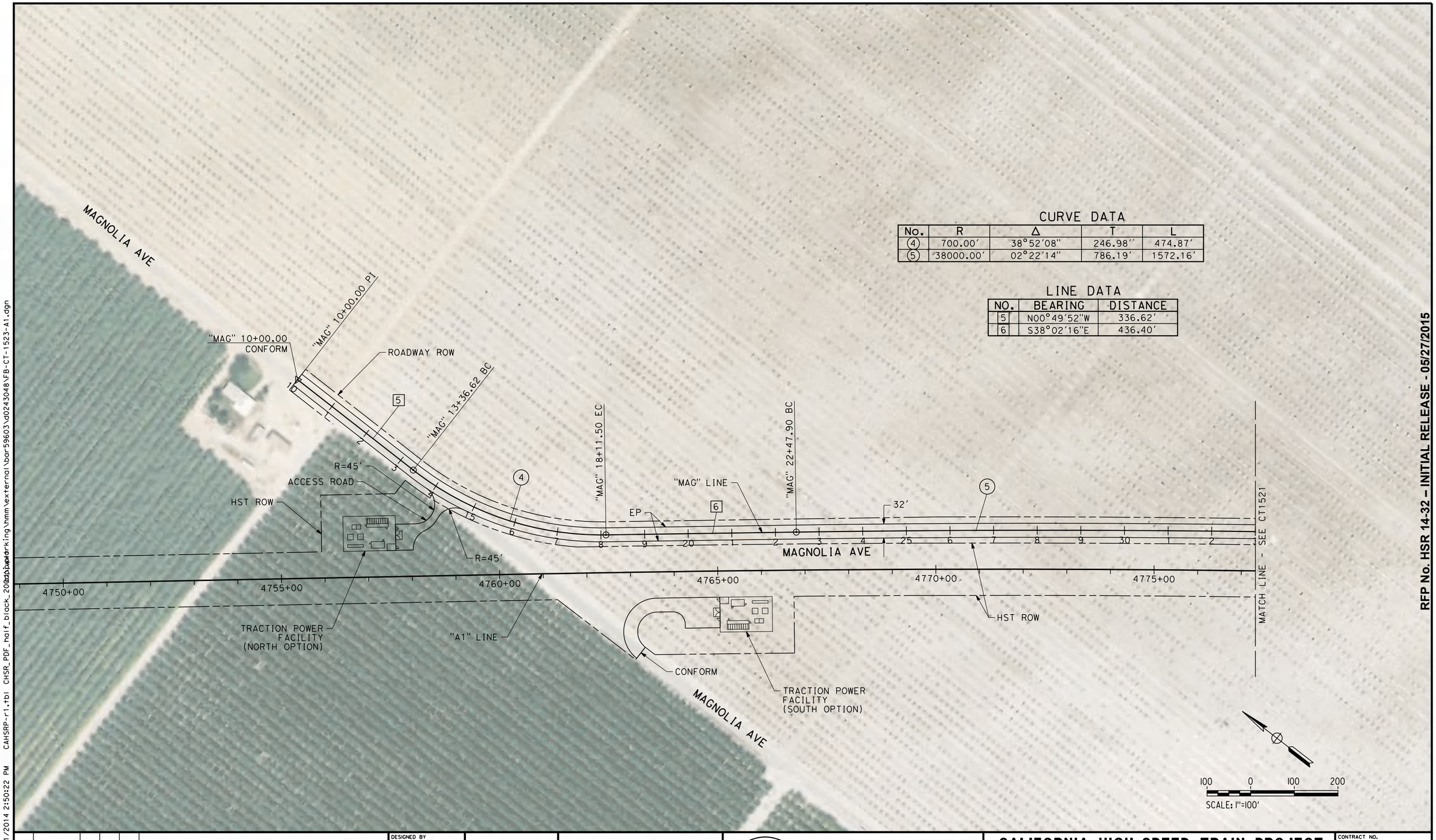
RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

## CURVE DATA

| No. | R | Δ | T | L |
|---|---|---|---|---|
| (4) | 700.00′ | 38°52′08″ | 246.98′ | 474.87′ |
| (5) | 38000.00′ | 02°22′14″ | 786.19′ | 1572.16′ |

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 5 | N00°49′52″W | 336.62′ |
| 6 | S38°02′16″E | 436.40′ |




| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION LAYOUT
MAGNOLIA AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1523
SCALE AS SHOWN
SHEET NO. 9 OF 24

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## LINE DATA

| No. | BEARING | DISTANCE |
|---|---|---|
| 1 | S89°13'02"E | 5000.00' |

"PTR" 10+00.00 PI
"PTR" 12+30.00
CONFORM
ROADWAY ROW
DRAINAGE DITCH (TYP)
LIMIT OF DITCH
LIMIT OF DITCH TOE OF FILL
32'
"PTR" LINE
EP
MBGR (TYP)
BB
EB
PETERSON ROAD
HST ROW
"A1" LINE
4840+00
4845+00
4850+00
4855+00
ACCESS ROAD
ROADWAY ROW
TCE
"PTR" 34+23.57 POT=
"A1" 4848+99.49 POT
MATCH LINE - SEE SHEET CT1532
ROADWAY ROW
LIMIT OF DITCH TOE OF FILL
LIMIT OF DITCH
ROADWAY ROW
ACCESS ROAD
HST ROW

100 0 100 200
SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

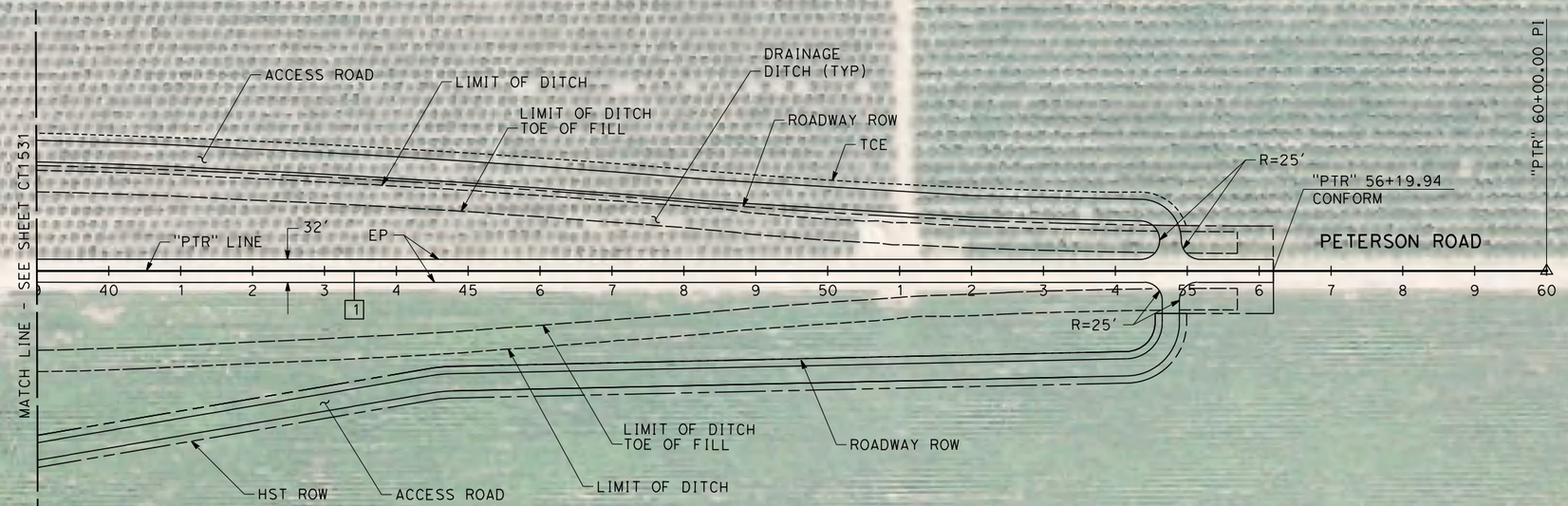
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION LAYOUT
PETERSON RD

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1531
SCALE AS SHOWN
SHEET NO. 10 OF 24

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LINE DATA

| No. | BEARING | DISTANCE |
|---|---|---|
| 1 | S89°13'02"E | 5000.00' |

100 0 100 200
SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

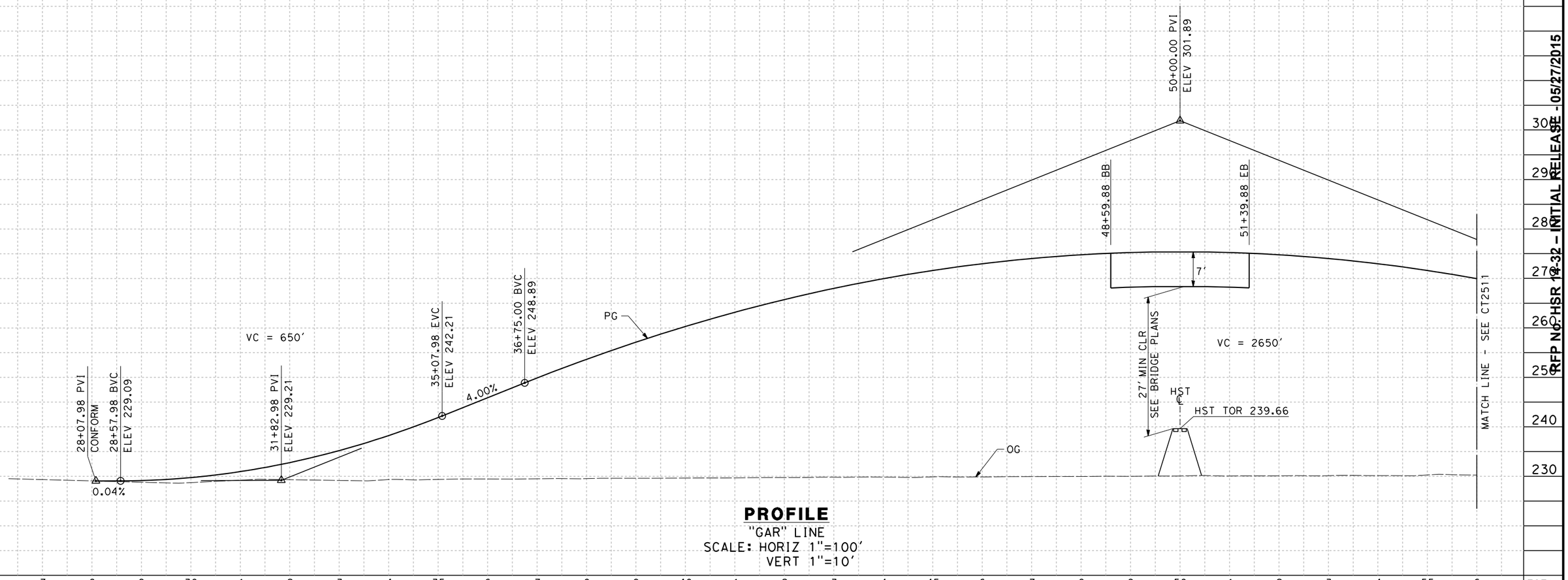
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION LAYOUT
PETERSON RD

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1532
SCALE AS SHOWN
SHEET NO. 11 OF 24

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NOTES:
1. MIN VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL.




## PROFILE
"GAR" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 7 | 8 | 9 | 30 | 1 | 2 | 3 | 4 | 35 | 6 | 7 | 8 | 9 | 40 | 1 | 2 | 3 | 4 | 45 | 6 | 7 | 8 | 9 | 50 | 1 | 2 | 3 | 4 | 55 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

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CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

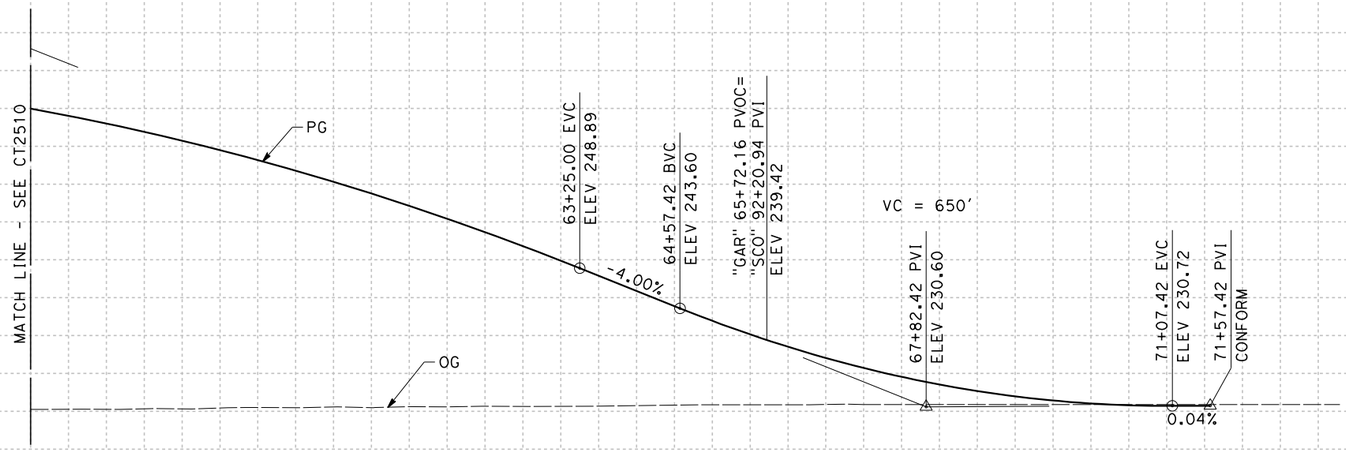
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPERATION PROFILE
GARCES HWY

CONTRACT NO. HSR 06-0003
DRAWING NO. CT2510
SCALE AS SHOWN
SHEET NO. 13 OF 24

RFP NO. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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BAR50597




## PROFILE

"GAR" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 6 | 7 | 8 | 9 | 60 | 1 | 2 | 3 | 4 | 65 | 6 | 7 | 8 | 9 | 70 | 1 | 2 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

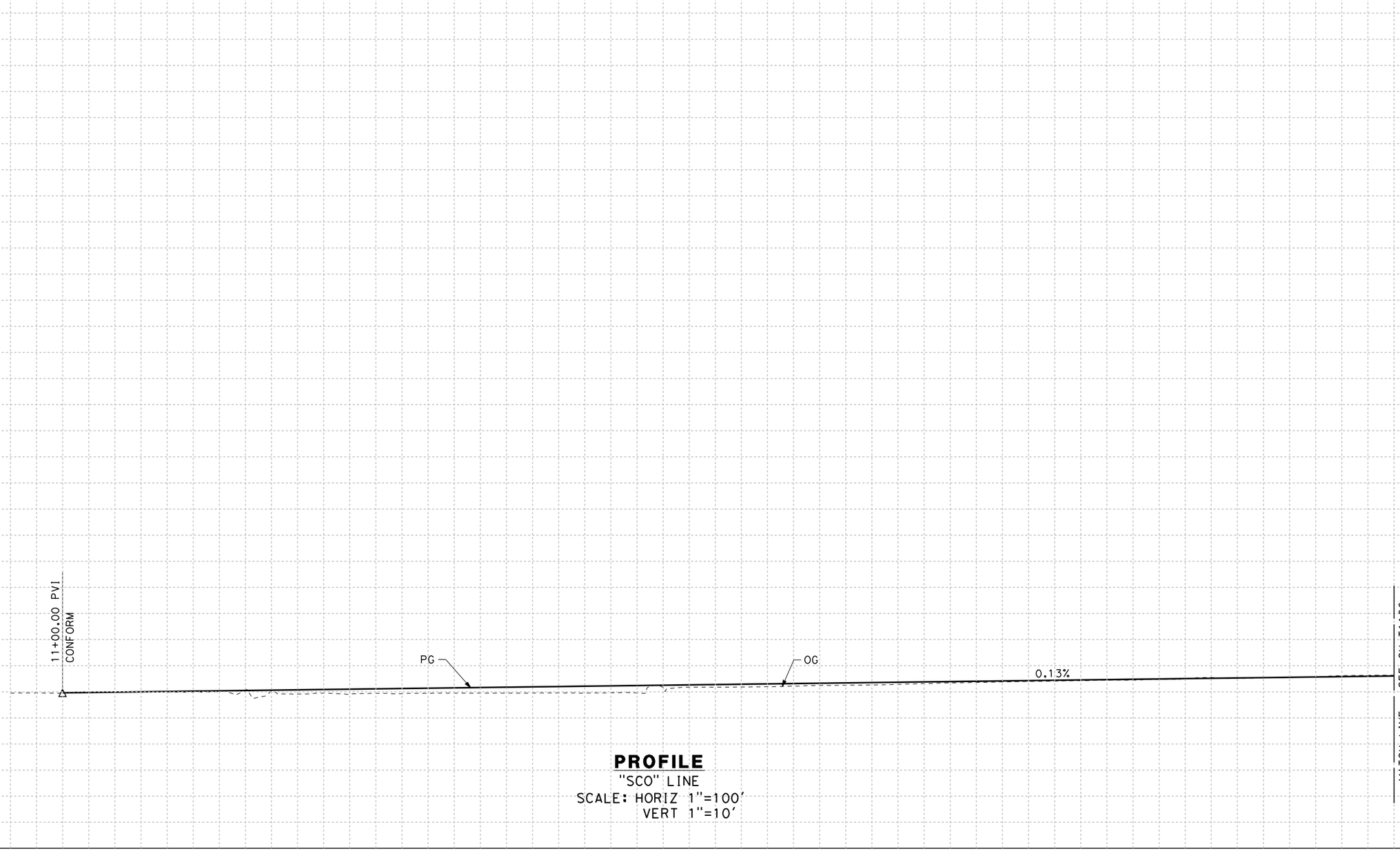
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION PROFILE
GARCES HWY

CONTRACT NO. HSR 06-0003
DRAWING NO. CT2511
SCALE AS SHOWN
SHEET NO. 14 OF 24

RFP NO: HSR 12-32 – INITIAL RELEASE - 05/27/2015

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BAR50597

RFP NO. HSR 14-32 – INITIAL RELEASE - 05/27/2015




## PROFILE

"SCO" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 10 | 1 | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | 6 | 7 | 8 | 9 | 30 | 1 | 2 | 3 | 4 | 35 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

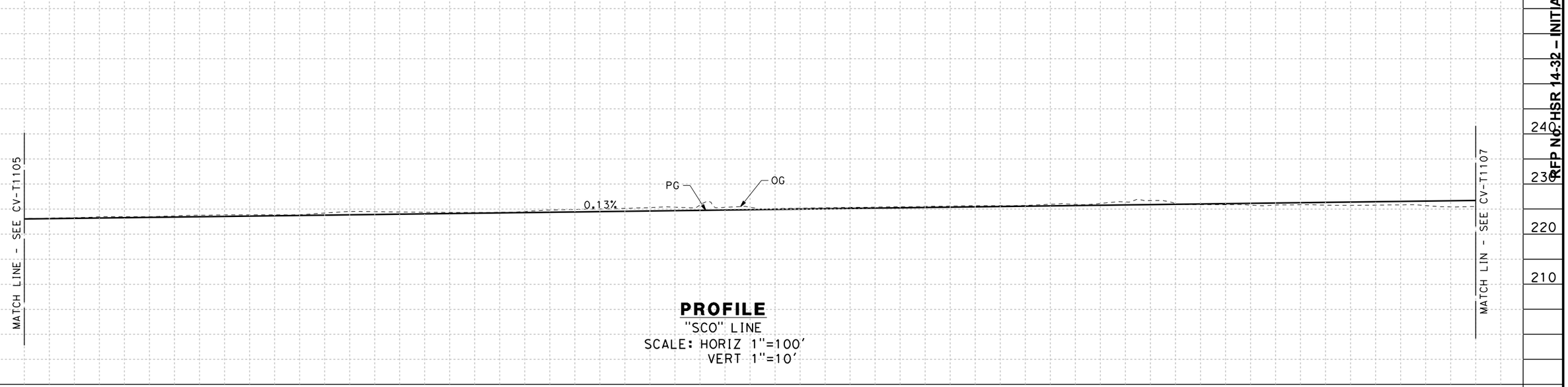
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION PROFILE
SCOFIELD AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1105
SCALE AS SHOWN
SHEET NO. 15 OF 24

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row31377

RFP NO. HSR 14-32 – INITIAL RELEASE - 05/27/2015




**PROFILE**
"SCO" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 6 | 7 | 8 | 9 | 40 | 1 | 2 | 3 | 4 | 45 | 6 | 7 | 8 | 9 | 50 | 1 | 2 | 3 | 4 | 55 | 6 | 7 | 8 | 9 | 60 | 1 | 2 | 3 | 4 | 65 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

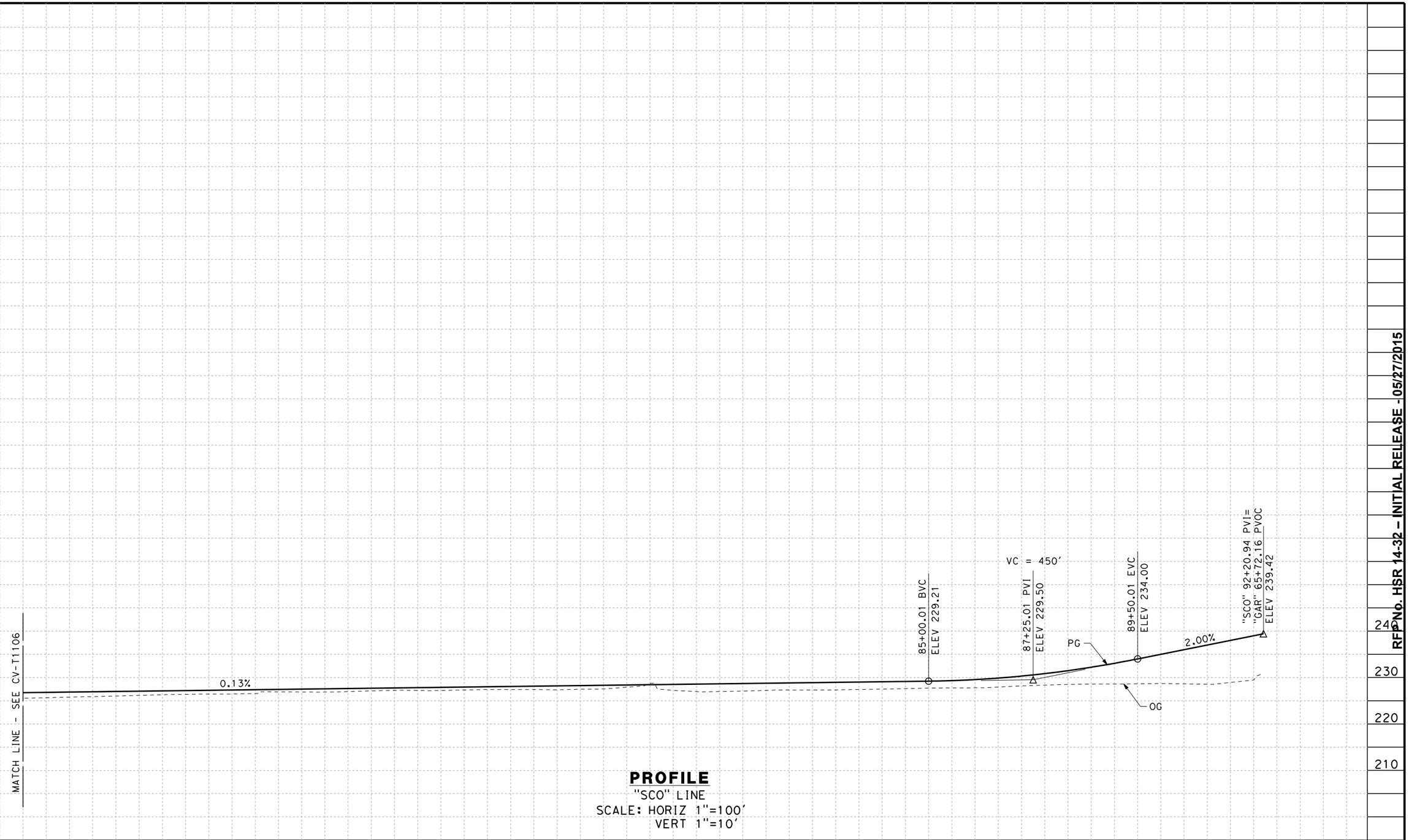
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION PROFILE
SCOFIELD AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1106
SCALE AS SHOWN
SHEET NO. 16 OF 24

8/6/2014 10:50:39 AM CAHSRP-r1.tbl CHSR_PDF_half_block.pltc:\pwworking\hmm\external\raw31377\d0243048\dS-CV-T1106-A1.dgn
raw31377




## PROFILE

"SCO" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 6 | 7 | 8 | 9 | 70 | 1 | 2 | 3 | 4 | 75 | 6 | 7 | 8 | 9 | 80 | 1 | 2 | 3 | 4 | 85 | 6 | 7 | 8 | 9 | 90 | 1 | 2 | 3 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 08/08/14

PROPOSED PRELIMINARY DESIGN

NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

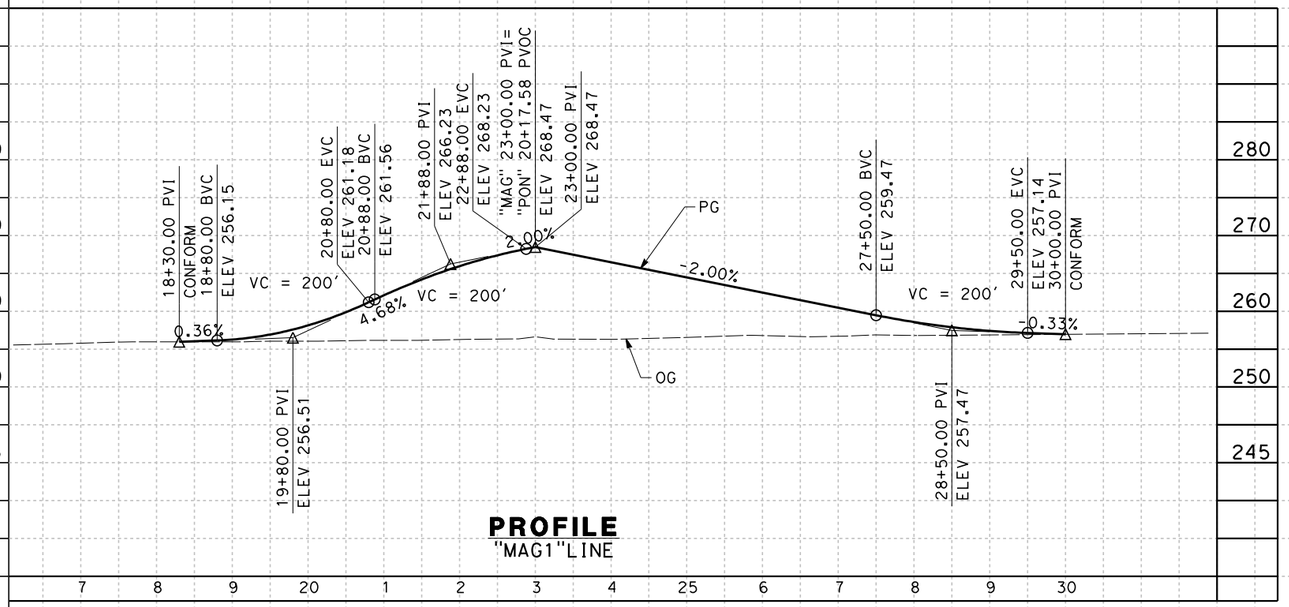
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION PROFILE
SCOFIELD AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1107
SCALE AS SHOWN
SHEET NO. 17 OF 24

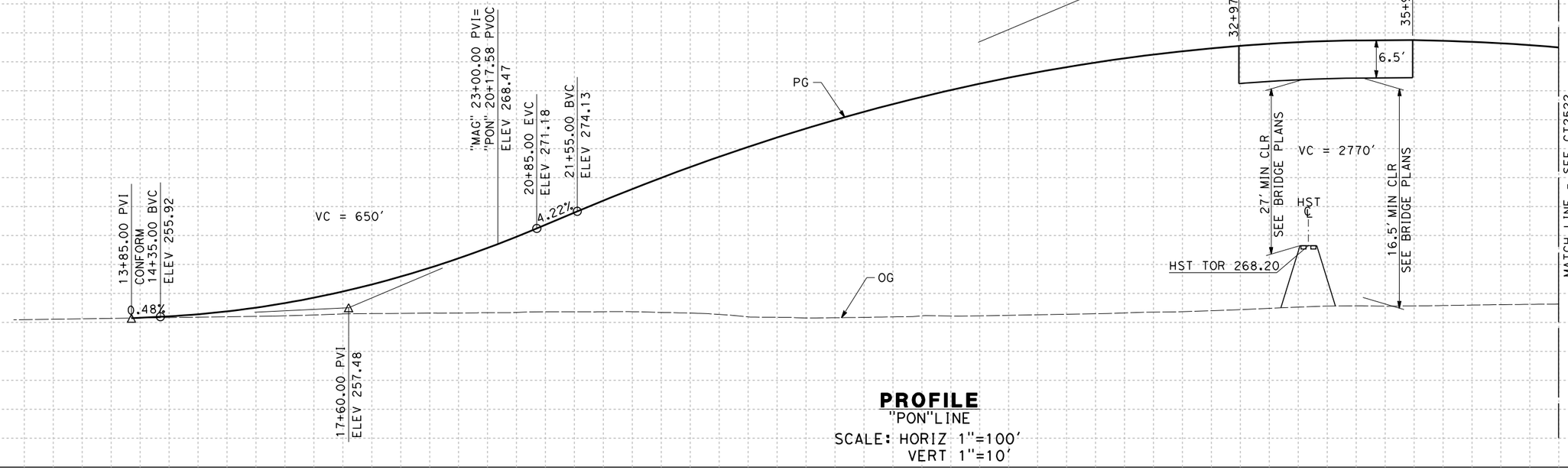
RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

8/6/2014 10:52:35 AM CAHSRP-r1.tbl CHSR_PDF_half_block.pltc:\pwworking\hmm\external\raw31377\d0243048\dS-CV-T1107-A1.dgn
raw31377

NOTES:
1. MIN VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL.
2. MIN VERTICAL CLEARANCE OVER MAGNOLIA AVENUE IS 16.5' FROM ROADWAY.




**PROFILE**
"MAG1" LINE




**PROFILE**
"PON" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | 6 | 7 | 8 | 9 | 30 | 1 | 2 | 3 | 4 | 35 | 6 | 7 | 8 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY | Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

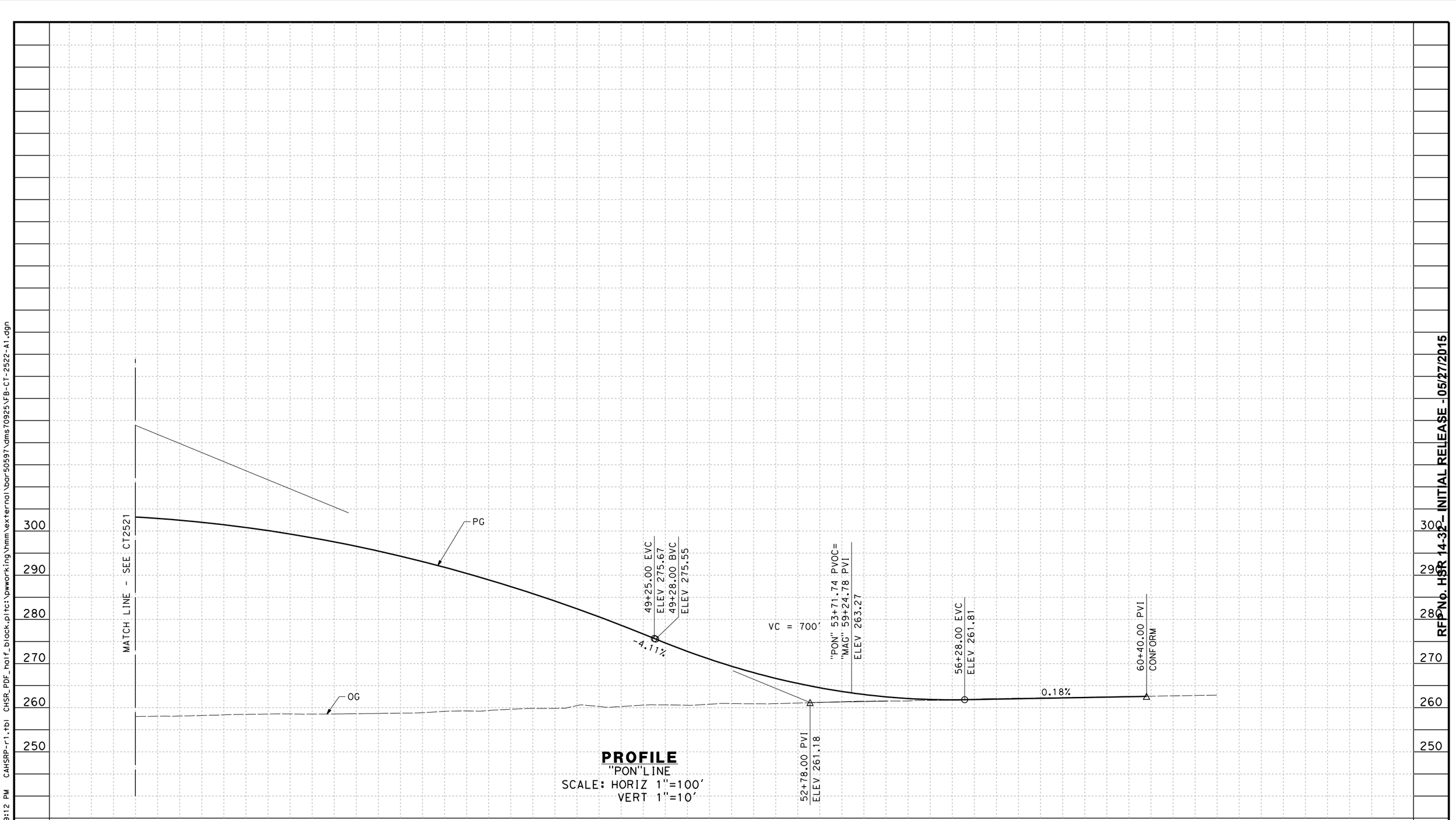
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION PROFILE
POND RD

CONTRACT NO. HSR 06-0003
DRAWING NO. CT2521
SCALE AS SHOWN
SHEET NO. 18 OF 24

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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BAR50597

12/30/2013 2:09:12 PM CAHSRP-r1.tbl CHSR_PDF_half_black.plt c:\pwworking\hmm\external\bar50597\dms70925\VFB-CT-2522-A1.dgn




**PROFILE**
"PON" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 8 | 9 | 40 | 1 | 2 | 3 | 4 | 45 | 6 | 7 | 8 | 9 | 50 | 1 | 2 | 3 | 4 | 55 | 6 | 7 | 8 | 9 | 60 | 1 | 2 | 3 | 4 | 65 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

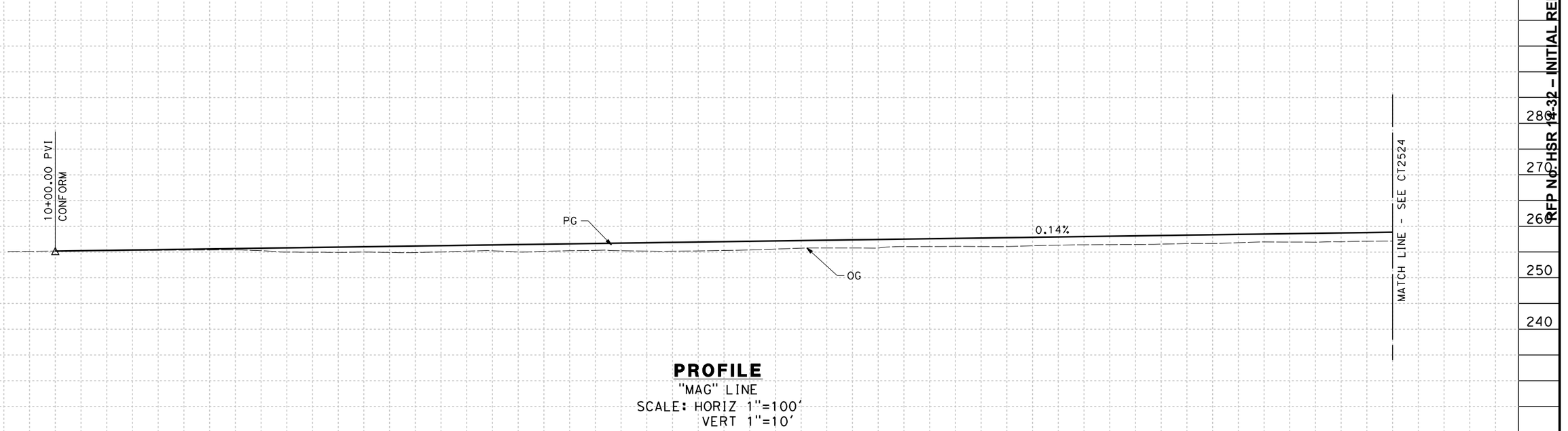
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION PROFILE
POND RD

CONTRACT NO. HSR 06-0003
DRAWING NO. CT2522
SCALE AS SHOWN
SHEET NO. 19 OF 24

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

BAR50597

NOTES:
1. MIN VERTICAL CLEARANCE OVER MAGNOLIA AVENUE IS 16.5' FROM ROADWAY.




**PROFILE**
"MAG" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | | 10 | 1 | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | 6 | 7 | 8 | 9 | 30 | 1 | 2 | 3 | 4 | 35 | 6 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY | Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

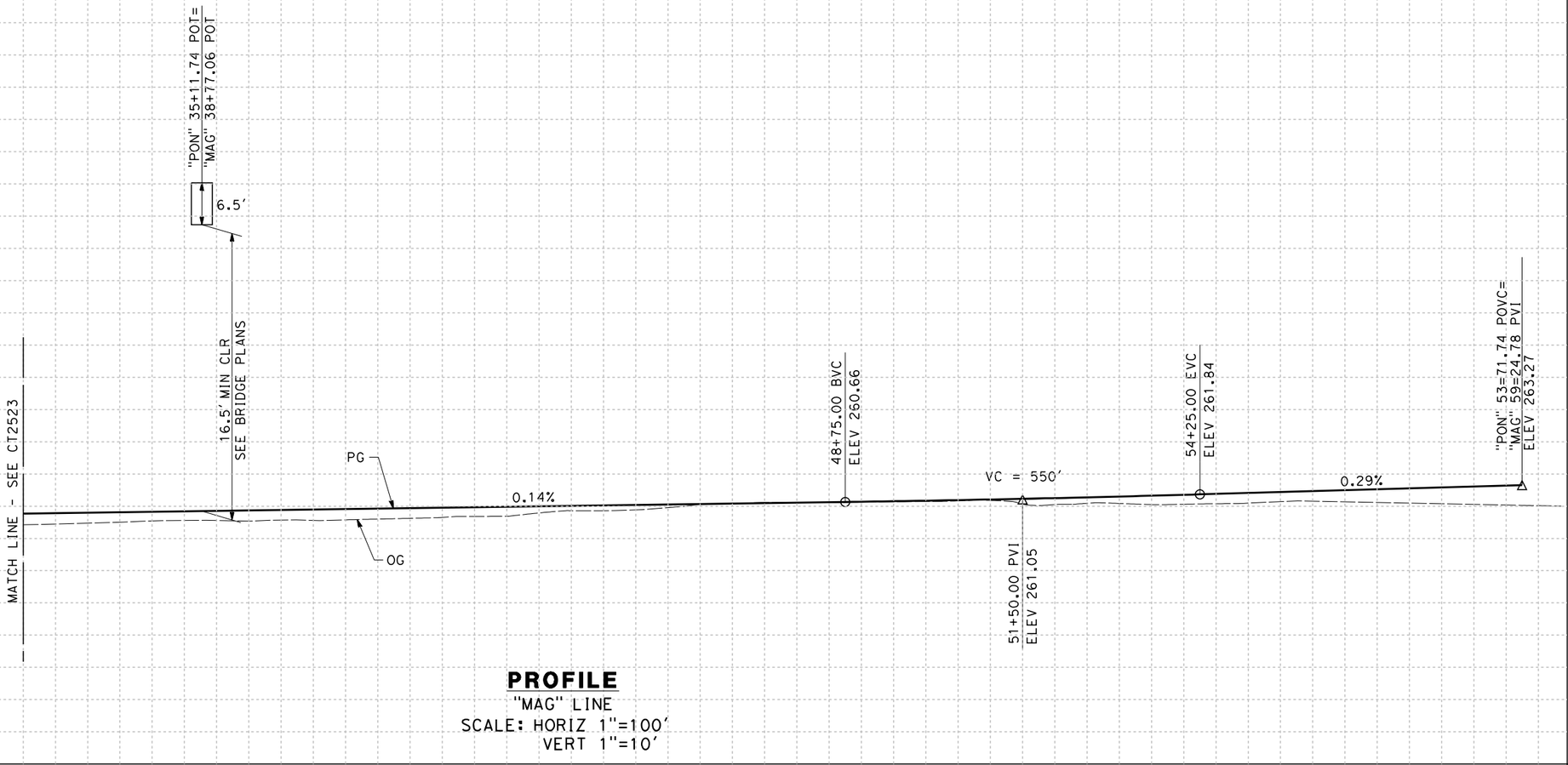
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION PROFILE
MAGNOLIA AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CT2523
SCALE AS SHOWN
SHEET NO. 20 OF 24

**RFP NO. HSR 12-32 – INITIAL RELEASE - 05/27/2015**

BAR50597 12/30/2013 2:09:30 PM CAHSRP-r1.tbl CHSR_PDF_half_block.pltc:\pwworking\hmm\external\bar50597\dms70925\FB-CT-2523-A1.dgn

12/30/2013 2:09:48 PM CAHSRP-r1.tbl CHSR_PDF_half_block.pltc: \pwworking\hmm\external\bar50597\dms70925\VFB-CT-2524-A1.dgn
BAR50597




**PROFILE**
"MAG" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 6 | 7 | 8 | 9 | 40 | 1 | 2 | 3 | 4 | 45 | 6 | 7 | 8 | 9 | 50 | 1 | 2 | 3 | 4 | 55 | 6 | 7 | 8 | 9 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

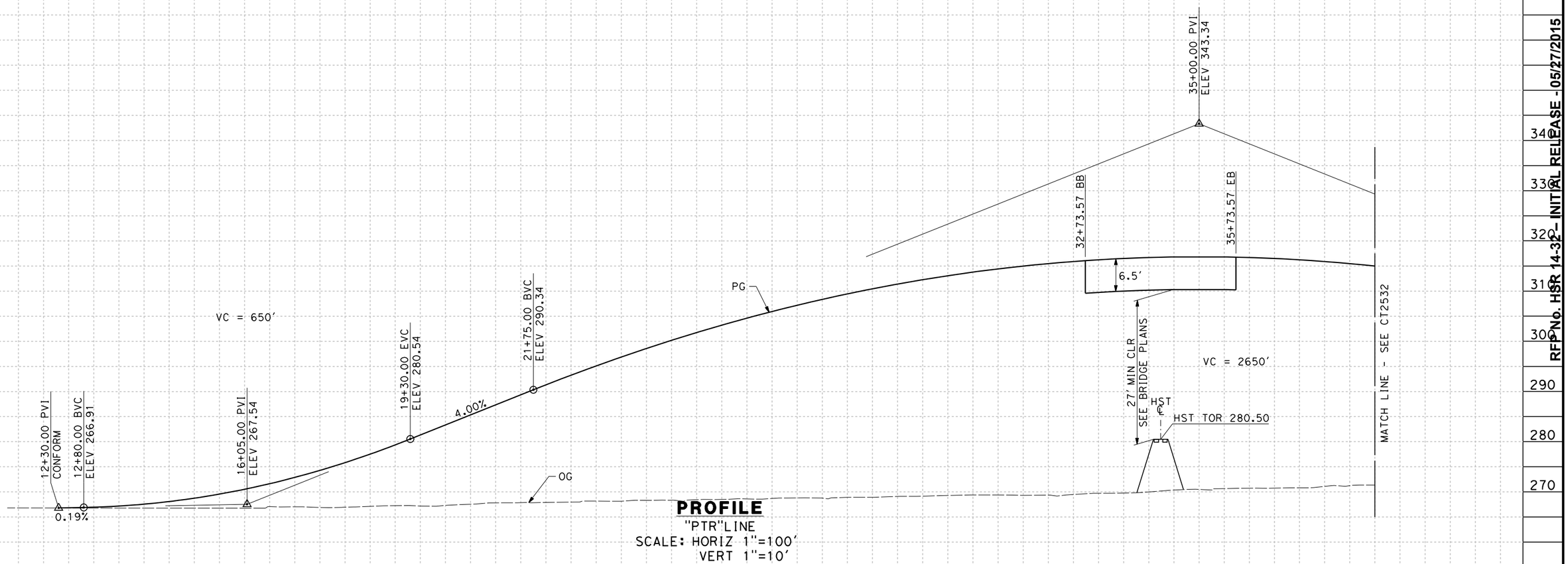
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION PROFILE
MAGNOLIA AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CT2524
SCALE AS SHOWN
SHEET NO. 21 OF 24

RFP NO: HSR 12-32 – INITIAL RELEASE - 05/27/2015

NOTES:
1. MIN VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL.




**PROFILE**
"PTR"LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | 6 | 7 | 8 | 9 | 30 | 1 | 2 | 3 | 4 | 35 | 6 | 7 | 8 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

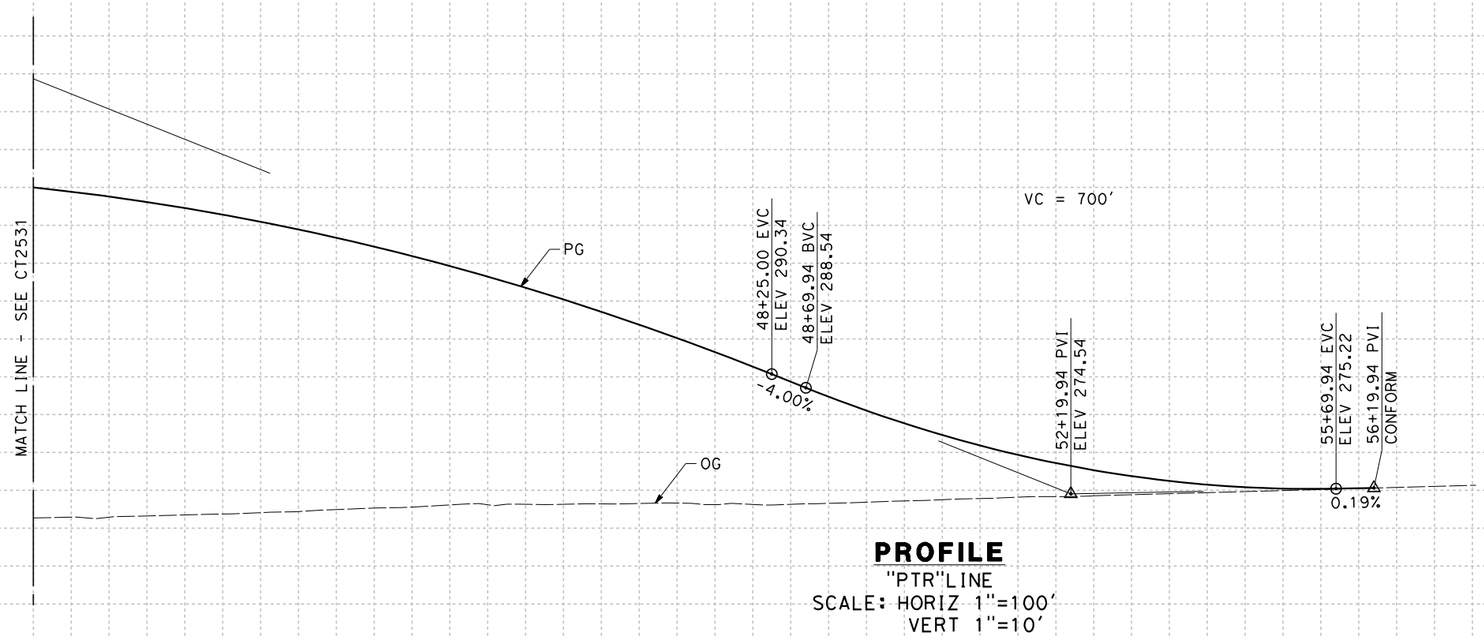
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPARATION PROFILE
PETERSON ROAD

CONTRACT NO. HSR 06-0003
DRAWING NO. CT2531
SCALE AS SHOWN
SHEET NO. 22 OF 24

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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BAR50597

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015




**PROFILE**
"PTR"LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 9 | 40 | 1 | 2 | 3 | 4 | 45 | 6 | 7 | 8 | 9 | 50 | 1 | 2 | 3 | 4 | 55 | 6 | 7 | 8 | 9 | 60 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
GRADE SEPERATION PROFILE
PETERSON ROAD

CONTRACT NO. HSR 06-0003
DRAWING NO. CT2532
SCALE AS SHOWN
SHEET NO. 23 OF 24

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BAR50597

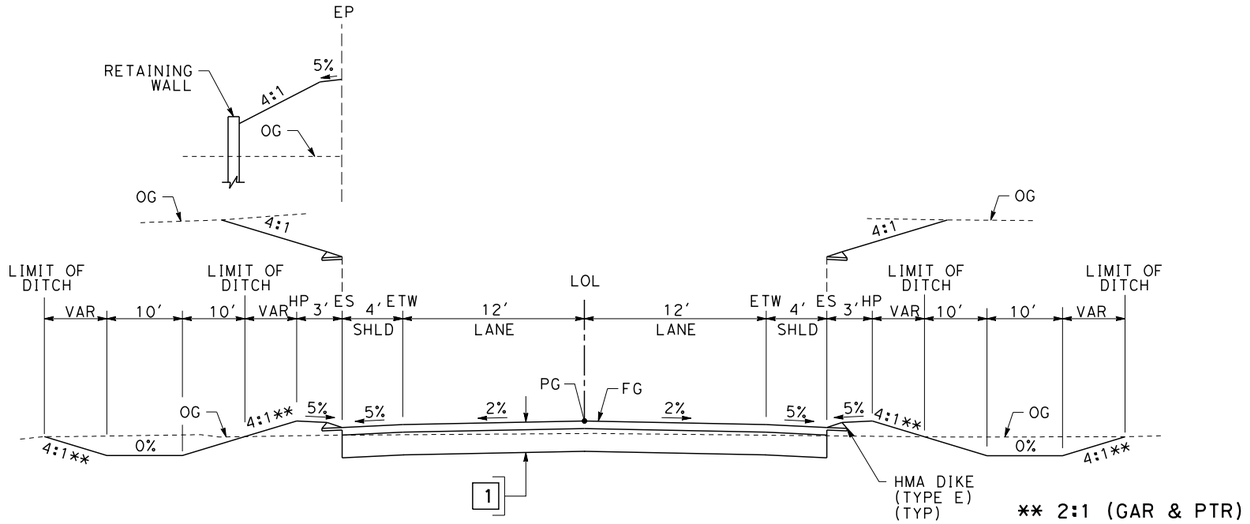
NOTES:

1. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
2. PAVEMENT SECTIONS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. EXACT DIMENSIONS AND MATERIAL OF THE PAVEMENT SECTION TO BE CONFIRMED.

## STRUCTURAL SECTIONS

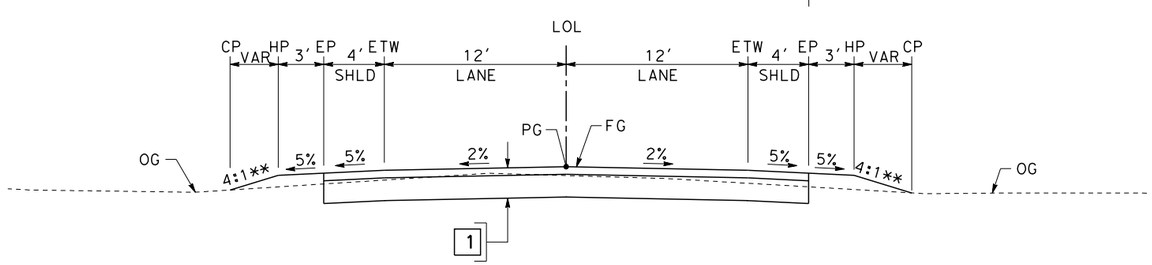
### TYPICAL ROADWAY

1 — 0.30' HMA (TYPE A)
1.40' CL 2 AB




## SECTION A

~~"J22" 33+00.00 TO 47+27.42~~
~~"J22" 50+07.42 TO 64+00.00~~
"GAR" 28+57.00 TO 48+59.88
"GAR" 51+39.88 TO 71+10.00
17+00.00 "PON" ~~16+50.00~~ TO 32+97.55
"PON" 35+97.55 TO 56+00.00
"PTR" 12+80.00 TO 32+73.57
"PTR" 35+73.57 TO 55+70.00




## SECTION B

~~"J22" 32+50.00 TO 33+00.00~~
~~"J22" 64+00.00 TO 64+50.00~~
"GAR" 28+07.98 TO 28+57.00
"GAR" 71+10.00 TO 71+57.42
"SCO" 11+00.00 TO 92+20.94
"PON" 13+85.00 TO ~~16+50.00~~ 17+00.00
"PON" 56+00.00 TO 60+40.00
"MAG" 10+00.00 TO 59+24.78
"MAG1" 18+30.00 TO 30+00.00
"PTR" 12+30.00 TO 12+80.00
"PTR" 55+70.00 TO 56+19.94

### TABLE OF DESIGN SPEEDS

| STREET NAME | ALIGNMENT DESIGNATION | DESIGN SPEED | CRITERIA / JURISDICTION |
|---|---|---|---|
| ~~COUNTY RD J22~~ | ~~J22~~ | ~~50~~ | ~~AASHTO/TULARE COUNTY~~ |
| GARCES HWY | GAR | 65 | KERN COUNTY/KERN COUNTY |
| SCOFIELD AVE | SCO | 45(35*) | KERN COUNTY/KERN COUNTY |
| POND RD | PON | 65 | KERN COUNTY/KERN COUNTY |
| MAGNOLIA AVE | MAG | 45(35*) | KERN COUNTY/KERN COUNTY |
| MAGNOLIA AVE(SOUTH) | MAG1 | 45 | KERN COUNTY/KERN COUNTY |
| PETERSON RD | PTR | 65 | KERN COUNTY/KERN COUNTY |

* WILL REQUIRE REDUCED DESIGN SPEED AT HORIZONTAL CURVE PRIOR TO STOP CONDITION.

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY I. JOSIFEK
DRAWN BY P. BARBER
CHECKED BY T. CLIFFORD
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
ROADWAY/GRADE SEPARATION
TYPICAL CROSS SECTIONS

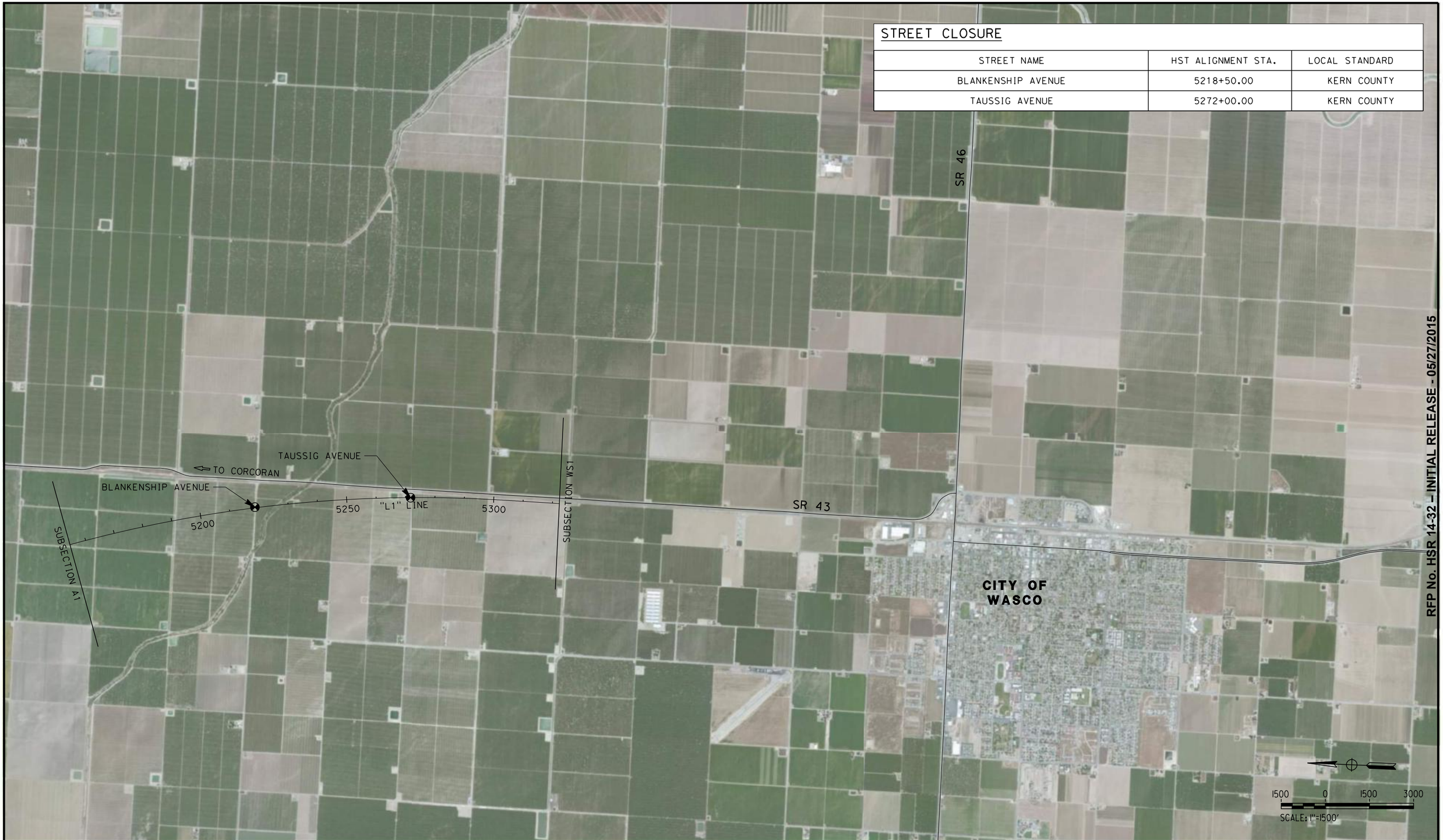
CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1109
SCALE AS SHOWN
SHEET NO. 24 OF 24

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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## STREET CLOSURE

| STREET NAME | HST ALIGNMENT STA. | LOCAL STANDARD |
|---|---|---|
| BLANKENSHIP AVENUE | 5218+50.00 | KERN COUNTY |
| TAUSSIG AVENUE | 5272+00.00 | KERN COUNTY |




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

$FILE$
$PLTDRVS$
$PENTBLS$
$TIME$
$DATE$
$USER$

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY: I. JOSIFEK
DRAWN BY: P. BARBER
CHECKED BY: T. CLIFFORD
IN CHARGE: R. COFFIN
DATE: 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

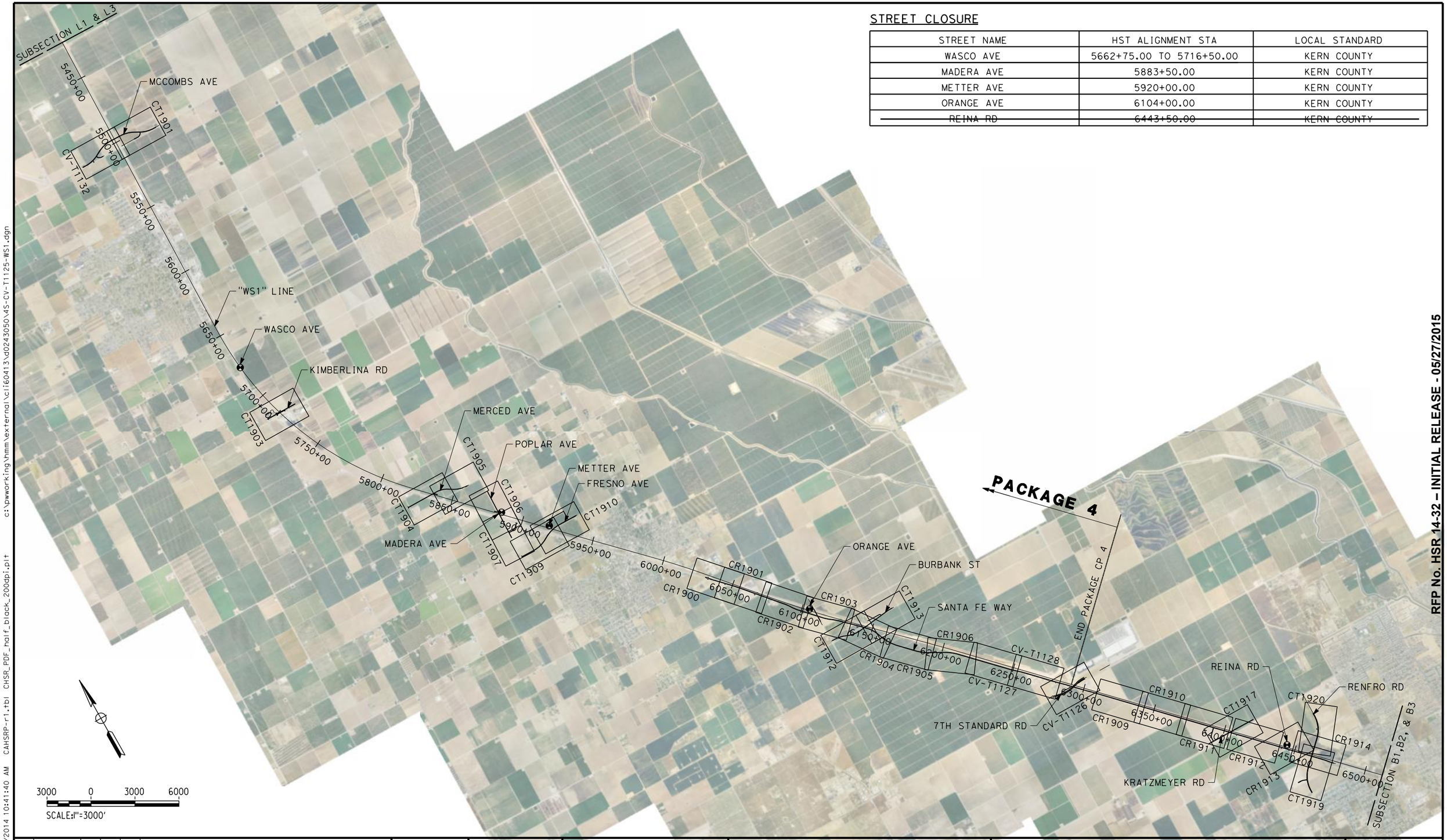
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
POSO CREEK SUBSECTION
ALIGNMENT L1
ROADWAY/GRADE SEPARATION
KEY MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. CB0130
SCALE AS SHOWN
SHEET NO. 1 OF 1

## STREET CLOSURE

| STREET NAME | HST ALIGNMENT STA | LOCAL STANDARD |
|---|---|---|
| WASCO AVE | 5662+75.00 TO 5716+50.00 | KERN COUNTY |
| MADERA AVE | 5883+50.00 | KERN COUNTY |
| METTER AVE | 5920+00.00 | KERN COUNTY |
| ORANGE AVE | 6104+00.00 | KERN COUNTY |
| ~~REINA RD~~ | ~~6443+50.00~~ | ~~KERN COUNTY~~ |




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY / GRADE SEPARATION
KEY MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1125
SCALE AS SHOWN
SHEET NO. 1 OF 67

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## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 1 | S 89°26'28" E | 262.66' |
| 2 | N 61°32'33" E | 334.08' |
| 3 | S 88°46'35" E | 780.00' |
| 8 | S 26°17'38" E | 57.79' |
| 9 | S 89°24'21" E | 200.50' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| (1) | 2000.00' | 29°00'59" | 517.54' | 1012.86' |
| (2) | 2000.00' | 29°40'52" | 529.94' | 1036.06' |
| (6) | 300.00' | 63°06'43" | 184.24' | 330.45' |

"WS1" LINE
HST ROW
ROADWAY ROW
LIMIT OF DITCH
LIMIT OF DITCH TOE OF FILL
DRAINAGE DITCH (TYP)
"MCA" 39+45.67 EC
"MCA" LINE
EP
40'
MBGR (TYP)
BB
"MCA" 29+09.61 BC
"MCA" 25+75.52 EC
"MCA" 25+00.00 POC=
"AMCC" 0+00.00 PI
"AMCC" 0+57.79 BC
"MCA" 42+35.67 POT=
"WS1" 5497+36.93 POT
5495+00
5500+00
5505+00
MATCH LINE - SEE SHEET CT1901
"MCA" 13+00.00 PI
CONFORM
"MCA" 15+62.66 BC
TCE
R=15'
MCCOMBS AVE
R=30'
CONFORM
LIMIT OF DITCH
LIMIT OF DITCH TOE OF FILL
"AMCC" LINE
REMOVE BASE AND SURFACING
"AMCC" 5+88.74 PI
32'
ANNIN CONNECTOR
"AMCC" 3+88.24 EC
"AMCC" 5+00.00 CONFORM
ANNIN AVE
REMOVE EXIST AT-GRADE CROSSING
REMOVE BASE AND SURFACING
BNSF
SR 43

100 0 100 200
SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
California High-Speed Train

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
MCCOMBS AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1132
SCALE AS SHOWN
SHEET NO. 2 OF 67

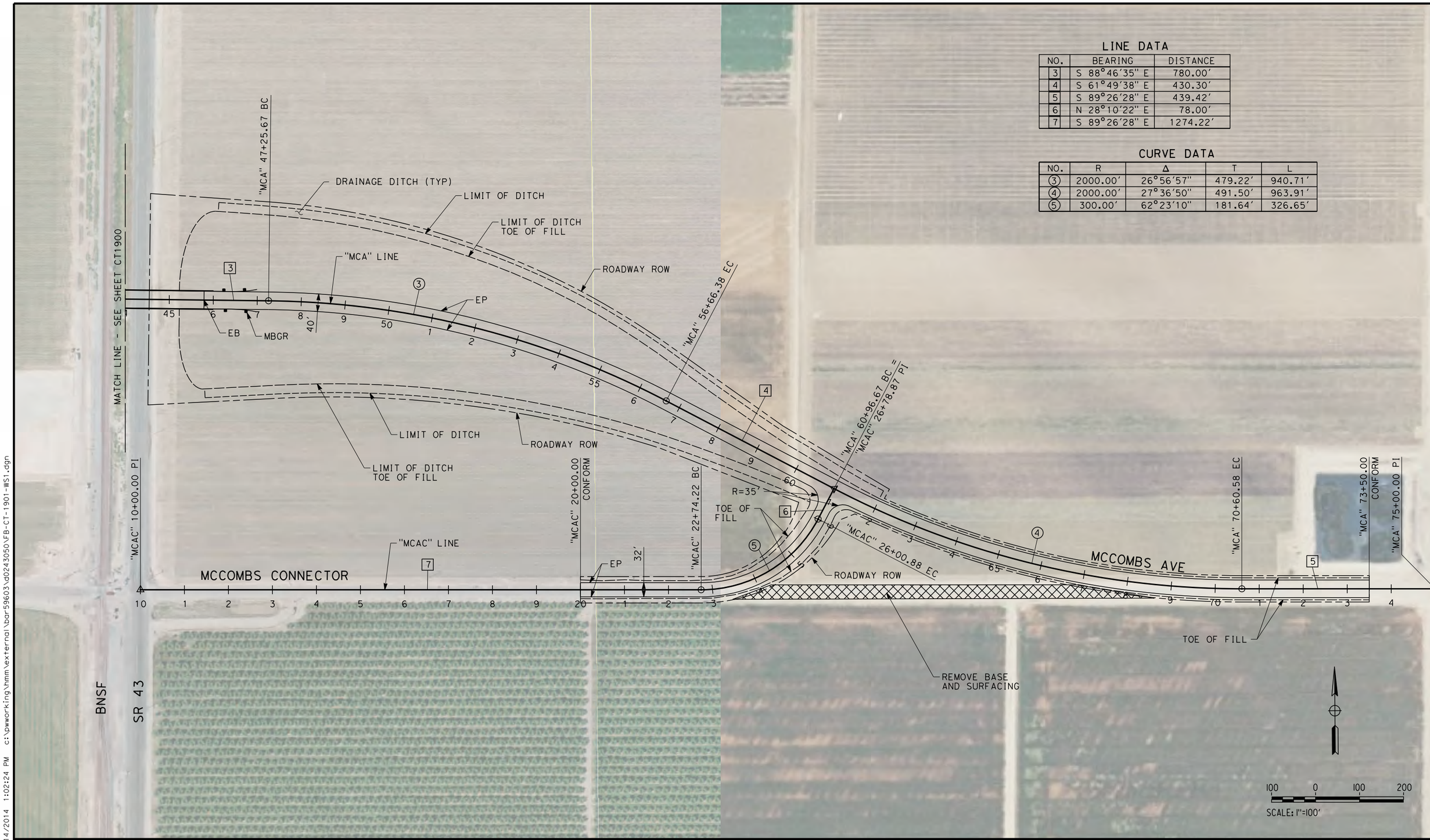
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CLI60413

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 3 | S 88°46'35" E | 780.00' |
| 4 | S 61°49'38" E | 430.30' |
| 5 | S 89°26'28" E | 439.42' |
| 6 | N 28°10'22" E | 78.00' |
| 7 | S 89°26'28" E | 1274.22' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| ③ | 2000.00' | 26°56'57" | 479.22' | 940.71' |
| ④ | 2000.00' | 27°36'50" | 491.50' | 963.91' |
| ⑤ | 300.00' | 62°23'10" | 181.64' | 326.65' |




REV | DATE | BY | CHK | APP | DESCRIPTION

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
MCCOMBS AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1901
SCALE AS SHOWN
SHEET NO. 3 OF 67

REF. No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

7/14/2014 1:02:24 PM c:\pwworking\hmm\external\bar59603\d0243050\FB-CT-1901-WS1.dgn
BAR59603

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 1 | S 89°29'37" E | 2200.00' |

RELOCATE BNSF TRACKS
HST ROW
BNSF
5710+00
"WS1" LINE
REMOVE BASE AND SURFACING (TYP)
RETENTION BASIN
ROADWAY ROW
R=45'
CONFORM
SR 43
40'
"KBA" 6+00.00 PI
TOP OF CUT
TCE
R=15'
CONFORM
MBGR (TYP)
EP
5715+00
RETAINING WALL NO. 1
TOP OF CUT
TCE
CONFORM
R=35'
ROADWAY ROW
"KBA" 28+00.00 PI
CONFORM
KIMBERLINA RD
"KBA" LINE
6 7 8 9 10 1 2 3 4 15 6 7 8 9 20 1 2 3 4 25 6 7 8
R=60'
TOP OF CUT
ROADWAY ROW
"KBA" 6+91.66 CONFORM
1
RETAINING WALL NO. 2
TOP OF CUT
CONFORM
R=15'
"KBA" 15+93.16 POT= "WS1" 5716+36.56 POT
5720+00
5725+00

### RETAINING WALL DATA

| NO. | LOCATION BEGIN | LOCATION END | LENGTH | MAX HEIGHT |
|---|---|---|---|---|
| 1 | 93.05' LT 13+47.00 | 103.46' LT 16+87.88 | 400' | 30' |
| 2 | 100.52' RT 13+58.35 | 86.32' RT 19+56.32 | 650' | 30' |

100 0 100 200
SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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BAR59603

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

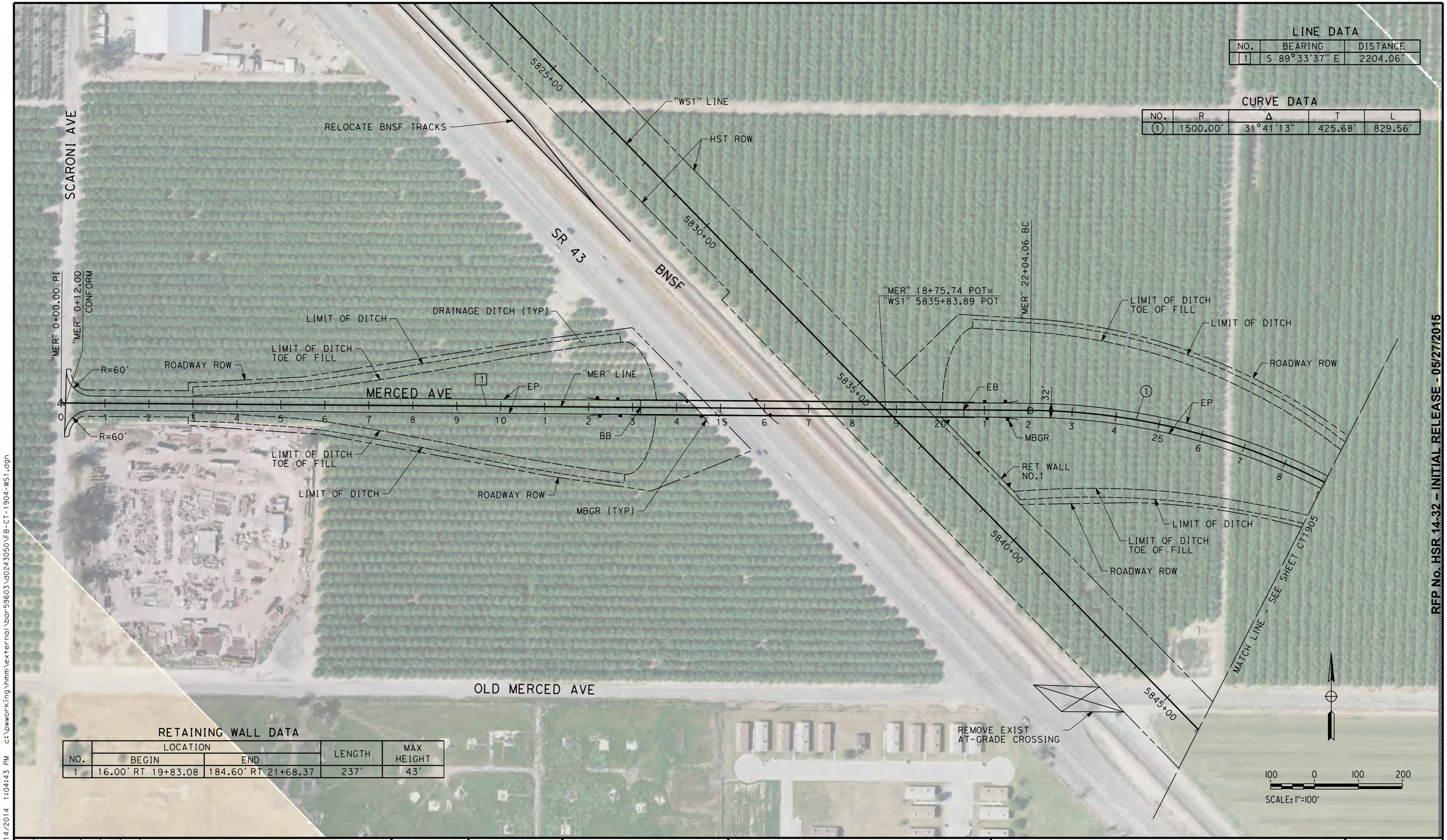
**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
KIMBERLINA RD

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1903
SCALE AS SHOWN
SHEET NO. 4 OF 67




LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 1 | S 89°33'37" E | 2204.06' |

CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| 1 | 1500.00' | 31°41'13" | 425.68' | 829.56' |

RETAINING WALL DATA

| NO. | LOCATION | | LENGTH | MAX HEIGHT |
|---|---|---|---|---|
| | BEGIN | END | | |
| 1 | 16.00' RT 19+83.08 | 184.60' RT 21+68.37 | 237' | 43' |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
MERCED AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1904
SCALE AS SHOWN
SHEET NO. 5 OF 67

REF No. HSR 14.32 — INITIAL RELEASE - 05/27/2015

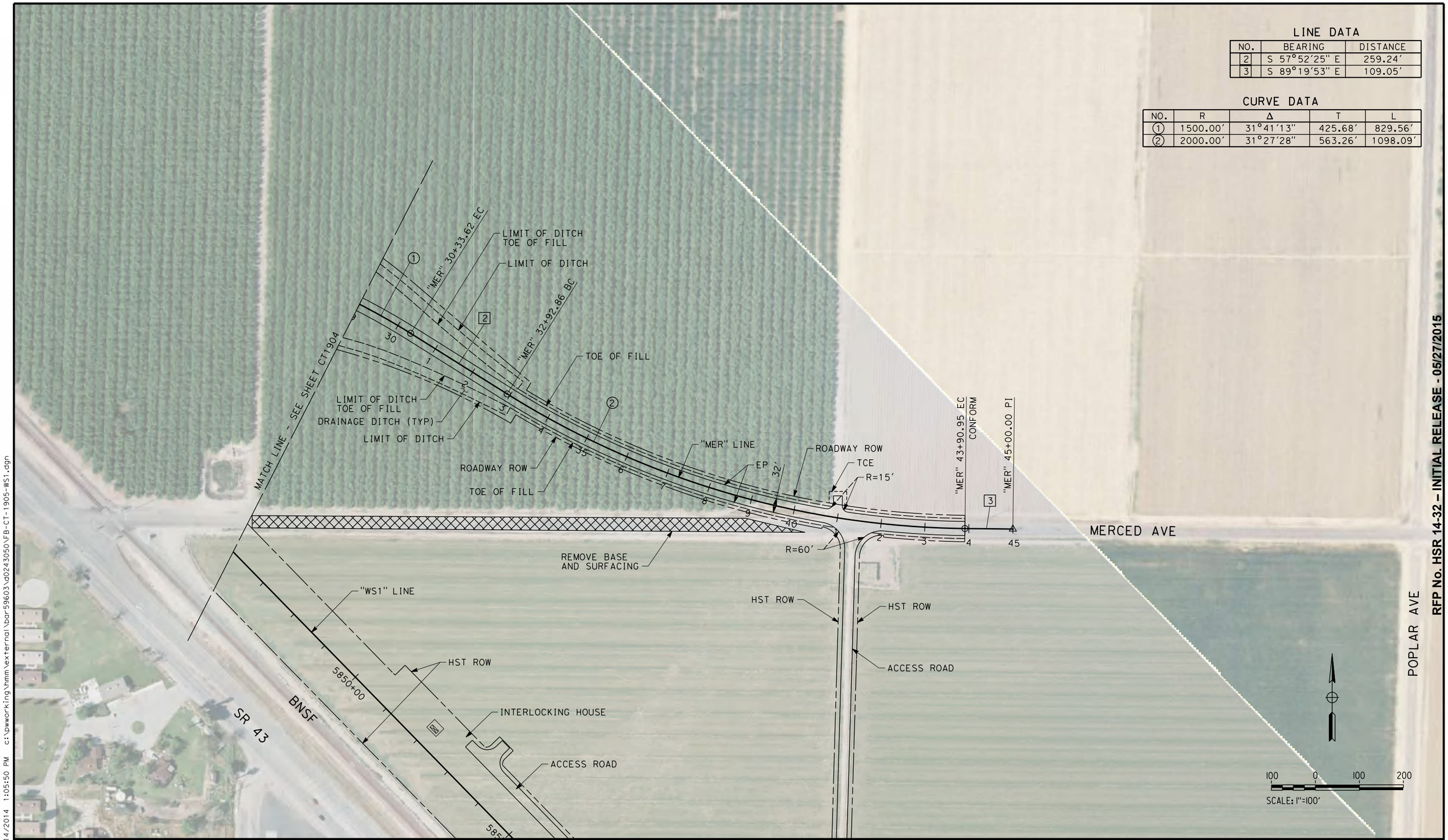
BAR59603 7/14/2014 1:04:43 PM c:\pwworking\hmm\external\bar59603\d0243050\FB-CT-1904-WS1.dgn

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 2 | S 57°52'25" E | 259.24' |
| 3 | S 89°19'53" E | 109.05' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| ① | 1500.00' | 31°41'13" | 425.68' | 829.56' |
| ② | 2000.00' | 31°27'28" | 563.26' | 1098.09' |




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

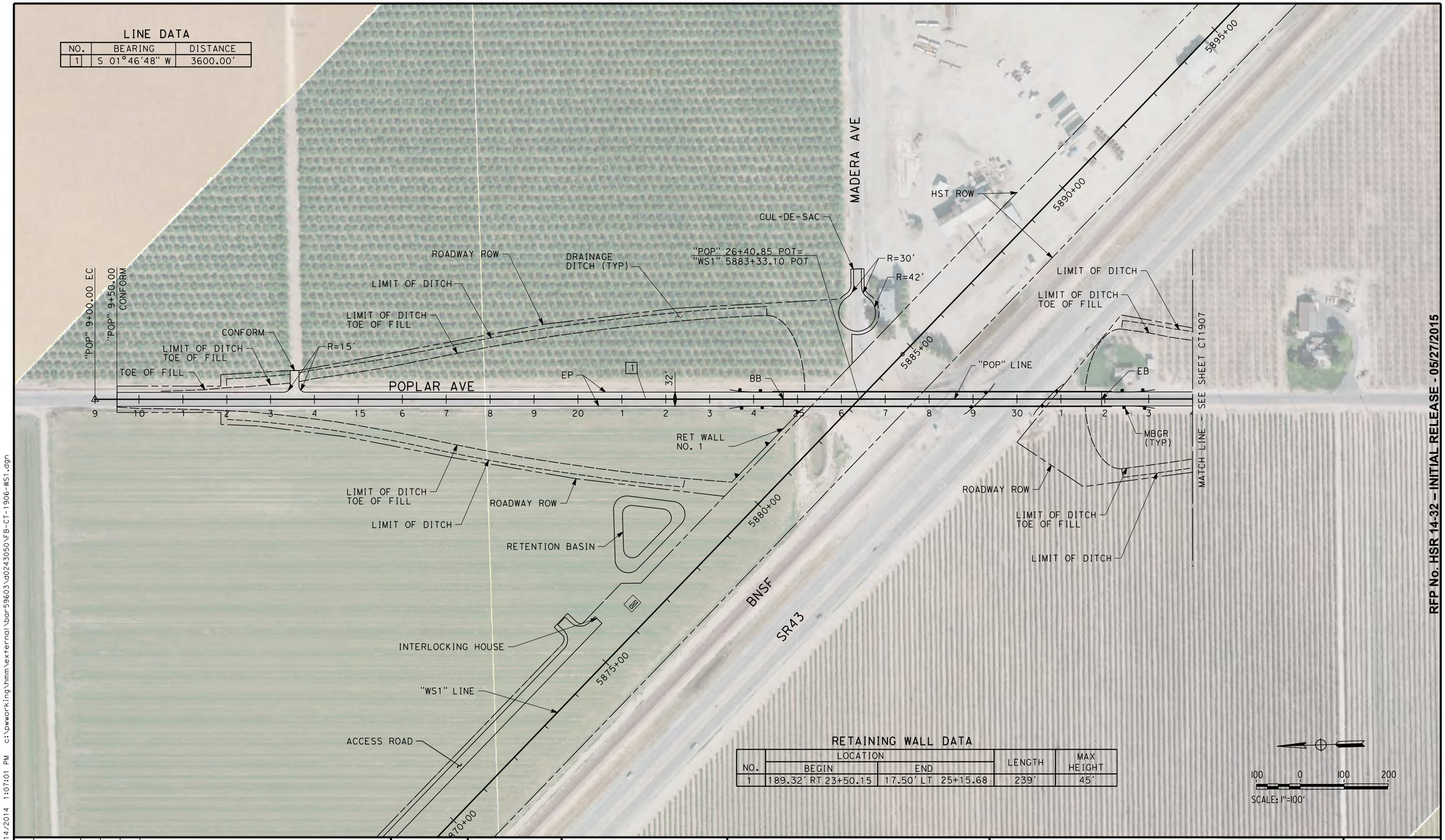
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
MERCED AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1905
SCALE AS SHOWN
SHEET NO. 6 OF 67

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BAR59603

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 1 | S 01°46'48" W | 3600.00' |




## RETAINING WALL DATA

| NO. | LOCATION | | LENGTH | MAX HEIGHT |
|---|---|---|---|---|
| | BEGIN | END | | |
| 1 | 189.32' RT 23+50.15 | 17.50' LT 25+15.68 | 239' | 45' |

100 0 100 200
SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
POPLAR AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1906
SCALE AS SHOWN
SHEET NO. 7 OF 67

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BAR59603

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 1 | S 01°46'48" W | 3600.00' |
| 2 | S 88°13'12" E | 250.00' |
| 3 | N 45°40'47" E | 323.36' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| ① | 425.00' | 46°06'01" | 180.84' | 341.96' |

"WS1" LINE
HST ROW
5900+00
5895+00
5890+00
5885+00
BNSF
SR43
"POF" 9+15.32 PI
"POF" 8+80.32
CONFORM
R=60'
R=60'
POPLAR CONNECTOR
EP
"POF" 5+91.96 EC
32'
TOE OF FILL
"POF" LINE
"POF" 2+50.00 BC
LIMIT OF DITCH
TOE OF FILL
LIMIT OF DITCH
ROADWAY ROW
R=60'
R=60'
"POP" LINE
32'
EP
MATCH LINE - SEE SHEET CT1906
ROADWAY ROW
LIMIT OF DITCH
LIMIT OF DITCH
TOE OF FILL
DRAINAGE DITCH
(TYP)
"POP" 41+00.00 POT=
"POF" 0+00.00 POT
"POP" 45+00.00
CONFORM
POPLAR AVE
FRESNO AVE
100 0 100 200
SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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BAR59603

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

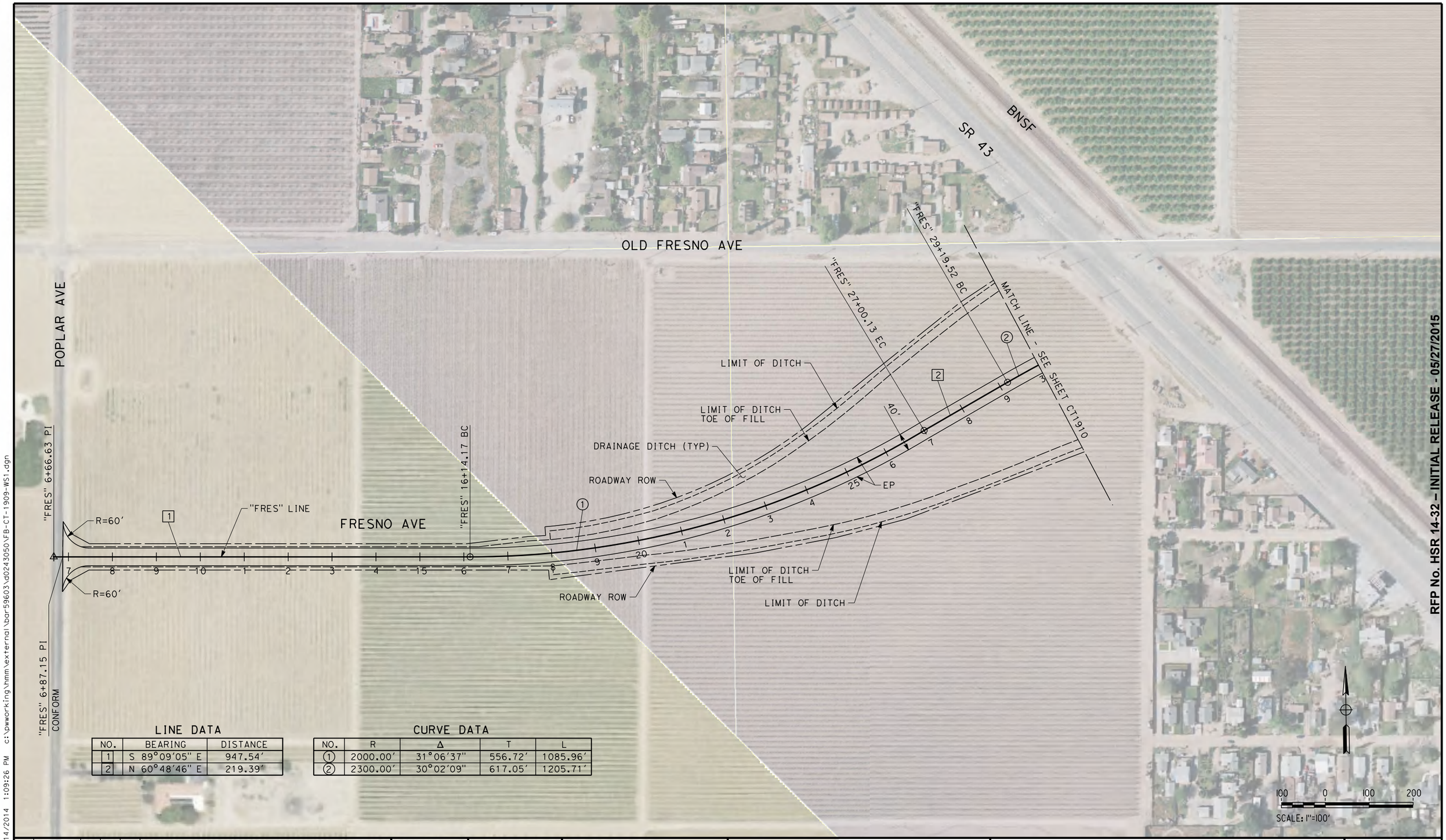
**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
POPLAR AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1907
SCALE AS SHOWN
SHEET NO. 8 OF 67




LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 1 | S 89°09'05" E | 947.54' |
| 2 | N 60°48'46" E | 219.39' |

CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| ① | 2000.00' | 31°06'37" | 556.72' | 1085.96' |
| ② | 2300.00' | 30°02'09" | 617.05' | 1205.71' |

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
FRESNO AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1909
SCALE AS SHOWN
SHEET NO. 9 OF 67

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| LINE DATA | | |
|---|---|---|
| NO. | BEARING | DISTANCE |
| 3 | S 89°09'05" E | 1374.77' |

| CURVE DATA | | | | |
|---|---|---|---|---|
| NO. | R | Δ | T | L |
| ② | 2300.00' | 30°02'09" | 617.05' | 1205.71' |

ROADWAY ROW
CONFORM
R=30'
METTER AVE
"FRES" 41+25.23 EC
ROADWAY ROW
R=30'
CUL-DE-SAC
"FRES" 35+69.76 POC=
"WS1" 5921+60.21 POT
R=42'
ACCESS ROAD
ROADWAY ROW
LIMIT OF DITCH
TOE OF FILL
LIMIT OF DITCH
ROADWAY ROW
DRAINAGE DITCH (TYP)
R=15'
"FRES" 55+00.00 PI
5910+00
5915+00
BNSF
SR 43
LIMIT OF DITCH
REMOVE EXIST
AT-GRADE CROSSING
LIMIT OF DITCH
TOE OF FILL
MBGR (TYP)
FRESNO AVE
3
"FRES" LINE
R=30'
5920+00
EB
EP
CONFORM
TCE
CONFORM
TCE
LIMIT OF DITCH
LIMIT OF DITCH
TOE OF FILL
ROADWAY ROW
MATCH LINE - SEE SHEET CT1909
BB
5925+00
ROADWAY ROW
LIMIT OF DITCH
LIMIT OF DITCH
TOE OF FILL
"WS1" LINE
HST ROW
5930+00
5935+
"FRES" 54+00.00 PI
CONFORM
100 0 100 200
SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

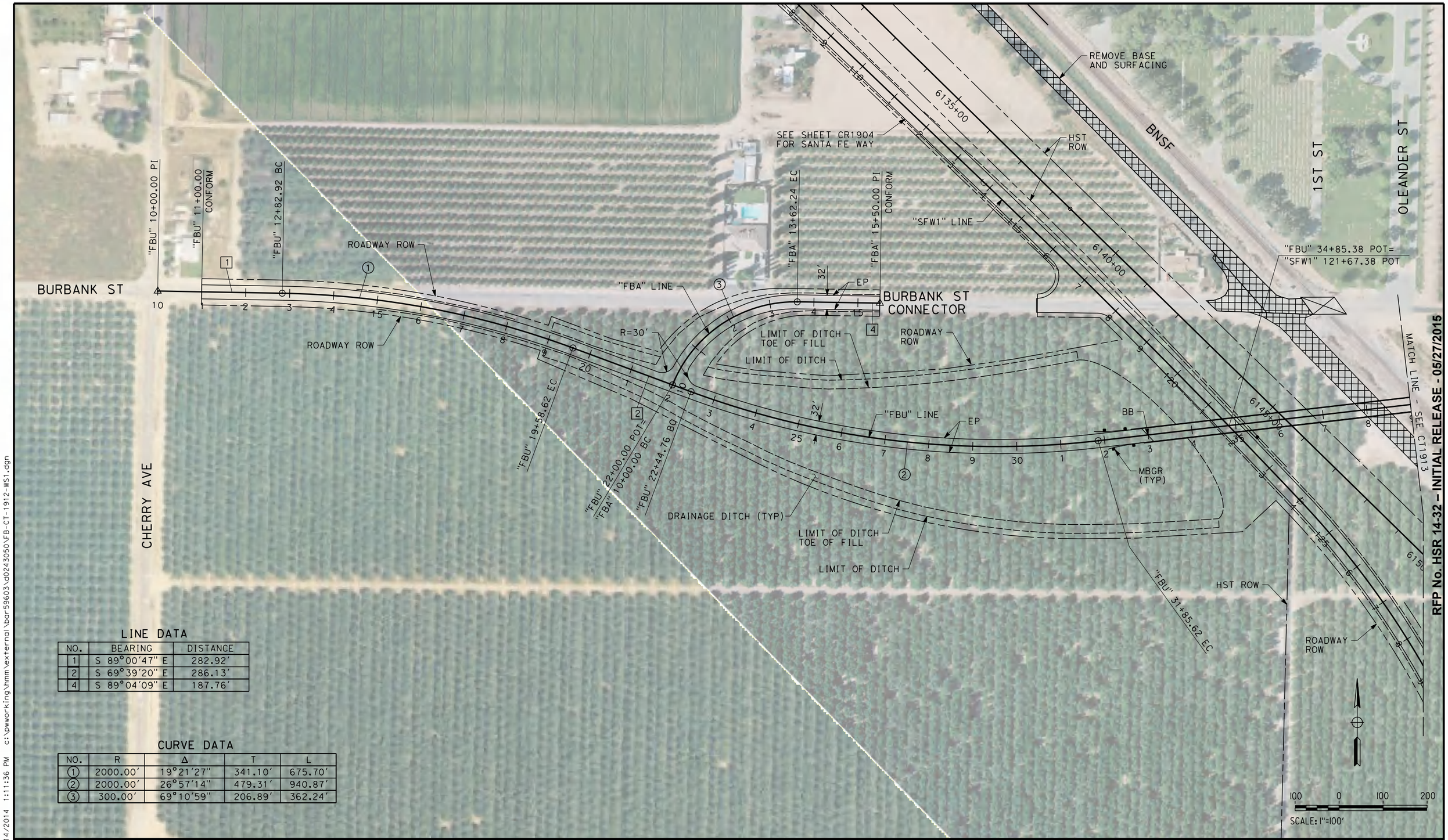
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
FRESNO AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1910
SCALE AS SHOWN
SHEET NO. 10 OF 67

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BAR59603




## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 1 | S 89°00'47" E | 282.92' |
| 2 | S 69°39'20" E | 286.13' |
| 4 | S 89°04'09" E | 187.76' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| ① | 2000.00' | 19°21'27" | 341.10' | 675.70' |
| ② | 2000.00' | 26°57'14" | 479.31' | 940.87' |
| ③ | 300.00' | 69°10'59" | 206.89' | 362.24' |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
BURBANK ST

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1912
SCALE AS SHOWN
SHEET NO. 11 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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BAR59603

LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 5 | N 83°23'26" E | 2225.00' |
| 6 | S 89°12'51" E | 245.42' |

CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| ④ | 2000.00' | 07°23'43" | 129.25' | 258.14' |

1ST ST

OLEANDER ST

MENDOTA ST

BURBANK ST

BNSF

MATCH LINE - SEE CT1912

ACCESS ROAD

DRAINAGE DITCH (TYP)

LIMIT OF DITCH

LIMIT OF DITCH TOE OF FILL

R=84'

R=108'

R=30'

R=30'

ROADWAY ROW

"FBU" 54+10.62 BC

"FBU" 56+68.77 EC

"FBU" 58+00.00 CONFORM

"FBU" 59+14.19 PI

"FBU" LINE

TOE OF FILL

ROADWAY ROW

EB

EP

MBGR (TYP)

LIMIT OF DITCH

LIMIT OF DITCH TOE OF FILL

"WS1" LINE

HST ROW

REMOVE BASE AND SURFACING

"SFW1" LINE

SEE SHEET CR1904 FOR SANTA FE WAY

100 0 100 200

SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

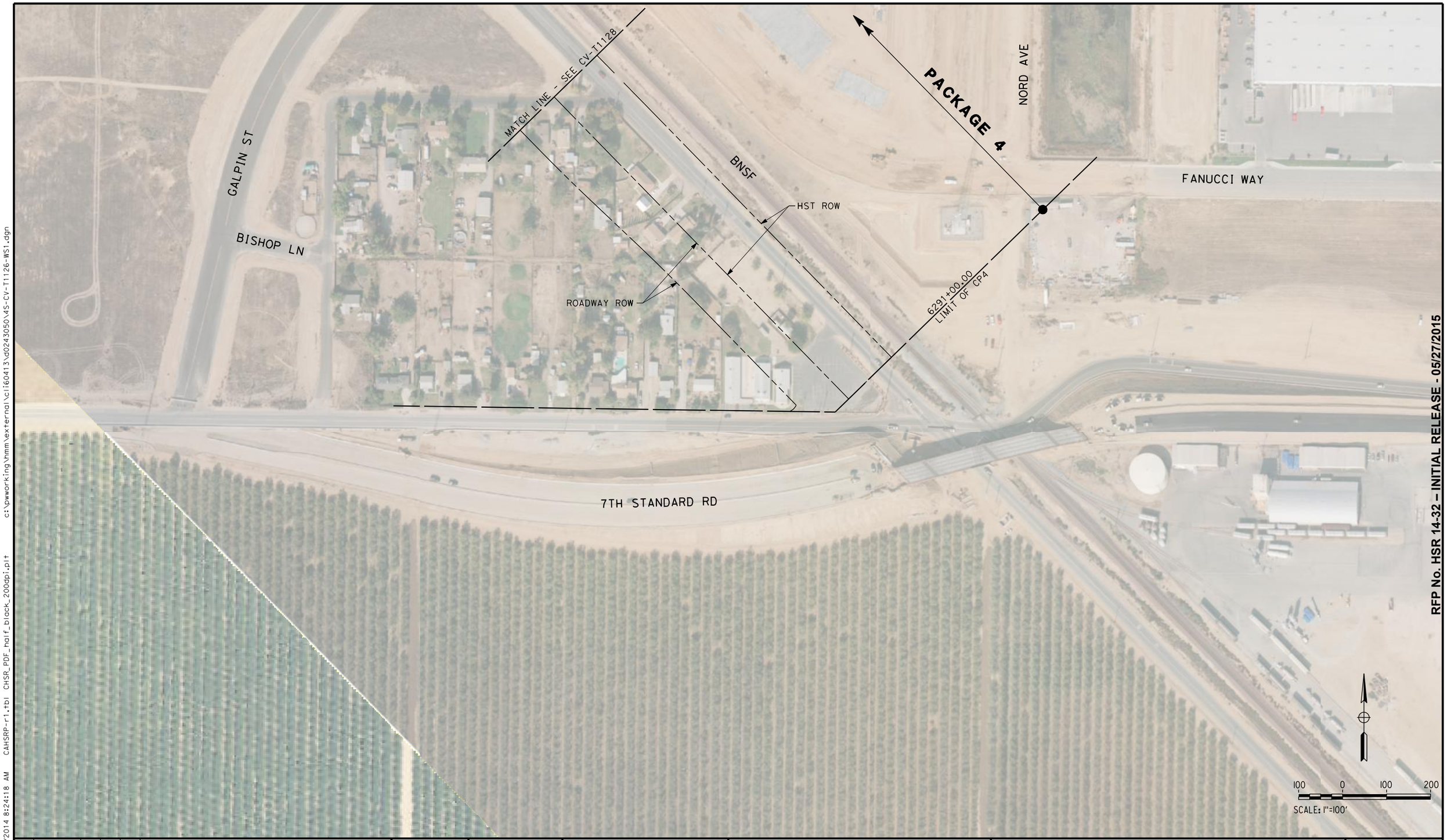
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
BURBANK ST

CONTRACT NO. HSR 06-0003
DRAWING NO. CT1913
SCALE AS SHOWN
SHEET NO. 12 OF 67

BAR59603 7/14/2014 1:12:50 PM c:\pwworking\hmm\external\bar59603\d0243050\FB-CT-1913-WS1.dgn




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
California High-Speed Train

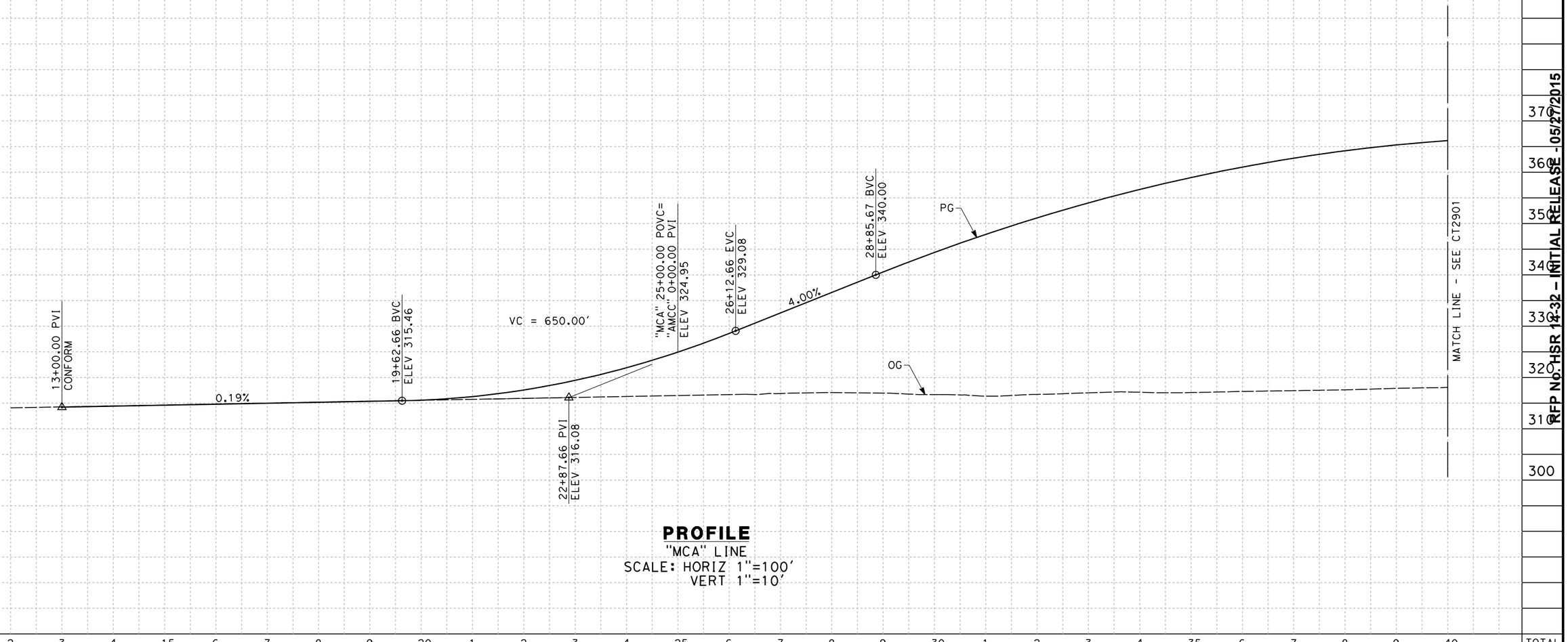
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
7TH STANDARD RD

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1126
SCALE AS SHOWN
SHEET NO. 13 OF 67

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NOTES:
1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER BNSF IS 24.0' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE UNDER STRUCTURE IS 16.5' FROM ROAD SURFACE




**PROFILE**
"MCA" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | 6 | 7 | 8 | 9 | 30 | 1 | 2 | 3 | 4 | 35 | 6 | 7 | 8 | 9 | 40 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

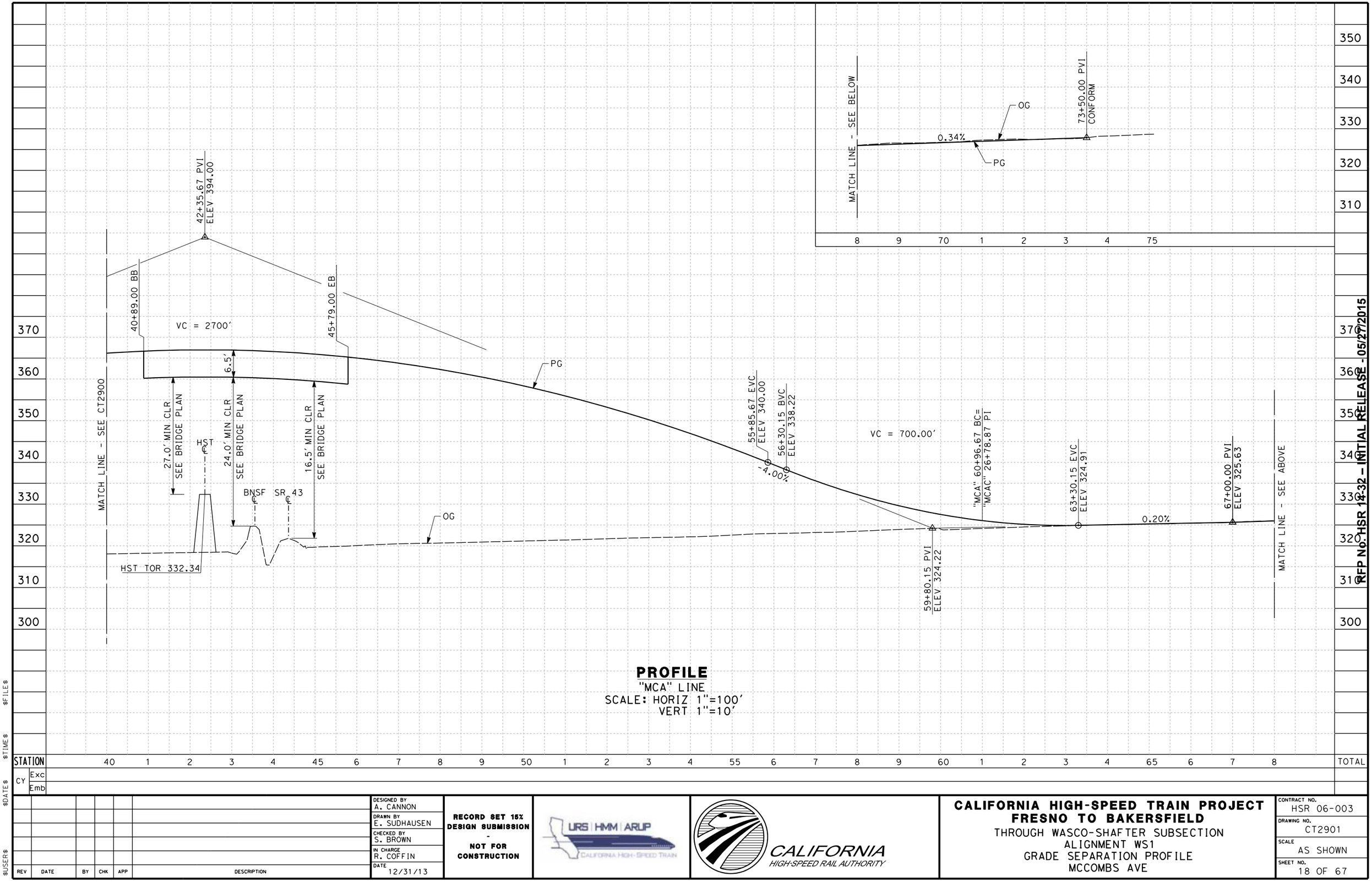
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
MCCOMBS AVE

CONTRACT NO. HSR 06-003
DRAWING NO. CT2900
SCALE AS SHOWN
SHEET NO. 17 OF 67

RFP NO. HSR 12-32 – INITIAL RELEASE - 05/27/2015

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12/26/2013 1:56:28 PM
eron.sudhausen




## PROFILE

"MCA" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 40 | 1 | 2 | 3 | 4 | 45 | 6 | 7 | 8 | 9 | 50 | 1 | 2 | 3 | 4 | 55 | 6 | 7 | 8 | 9 | 60 | 1 | 2 | 3 | 4 | 65 | 6 | 7 | 8 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

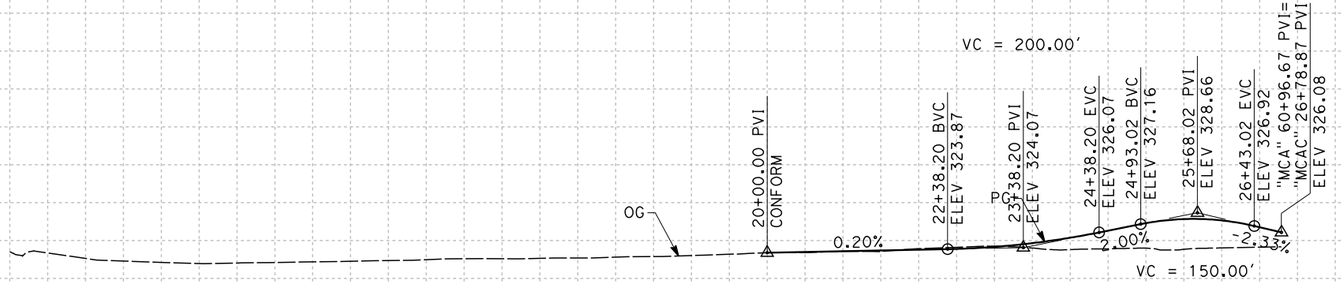
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
MCCOMBS AVE

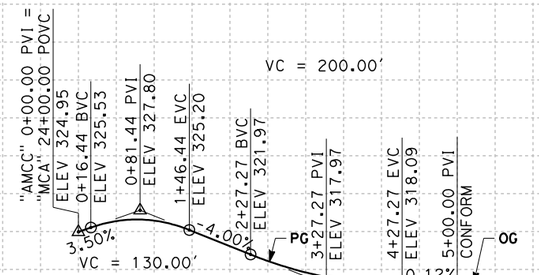
CONTRACT NO. HSR 06-003
DRAWING NO. CT2901
SCALE AS SHOWN
SHEET NO. 18 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

$FILE$ $TIME$ $DATE$ $USER$




**PROFILE**
"MCAC" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'




**PROFILE**
"AMCC" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 10 | 1 | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | 6 | 7 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

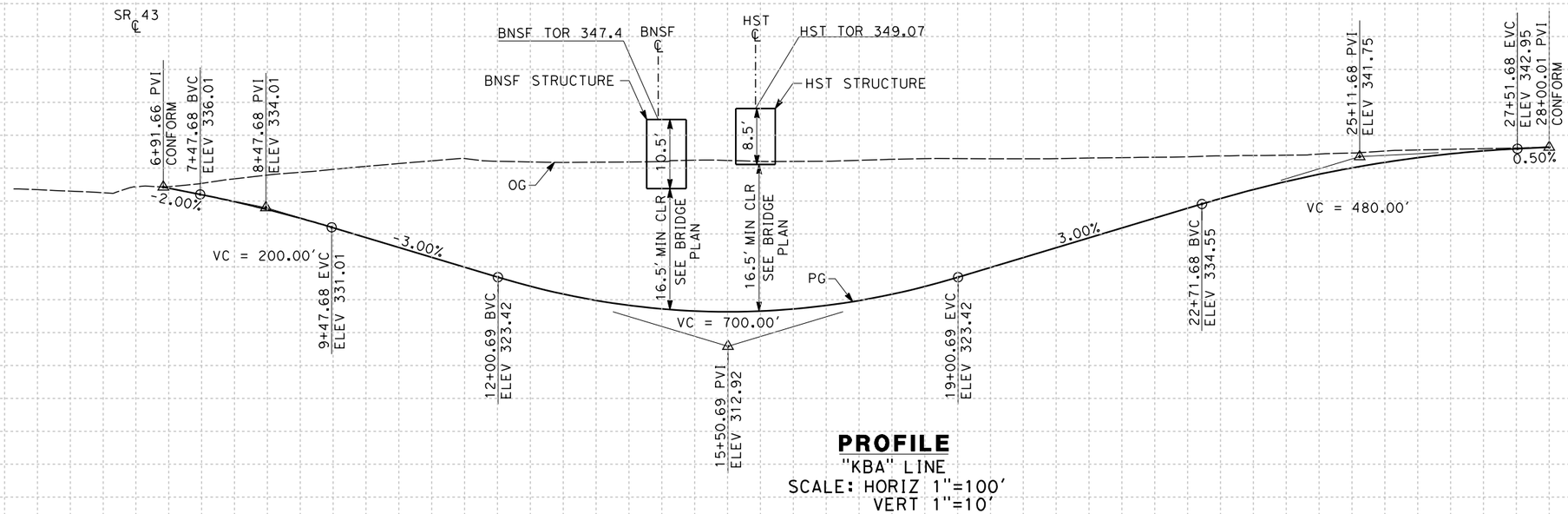
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
ANNIN CONNECTOR AND MCCOMBS CONNECTOR

CONTRACT NO. HSR 06-003
DRAWING NO. CT2902
SCALE AS SHOWN
SHEET NO. 19 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

$FILE$ $TIME$ $DATE$ $USER$

NOTES:
1. MINIMUM VERTICAL CLEARANCE BELOW HST AND BNSF STRUCTURE IS 16.5' FROM ROAD SURFACE




**PROFILE**
"KBA" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | 6 | 7 | 8 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
KIMBERLINA RD

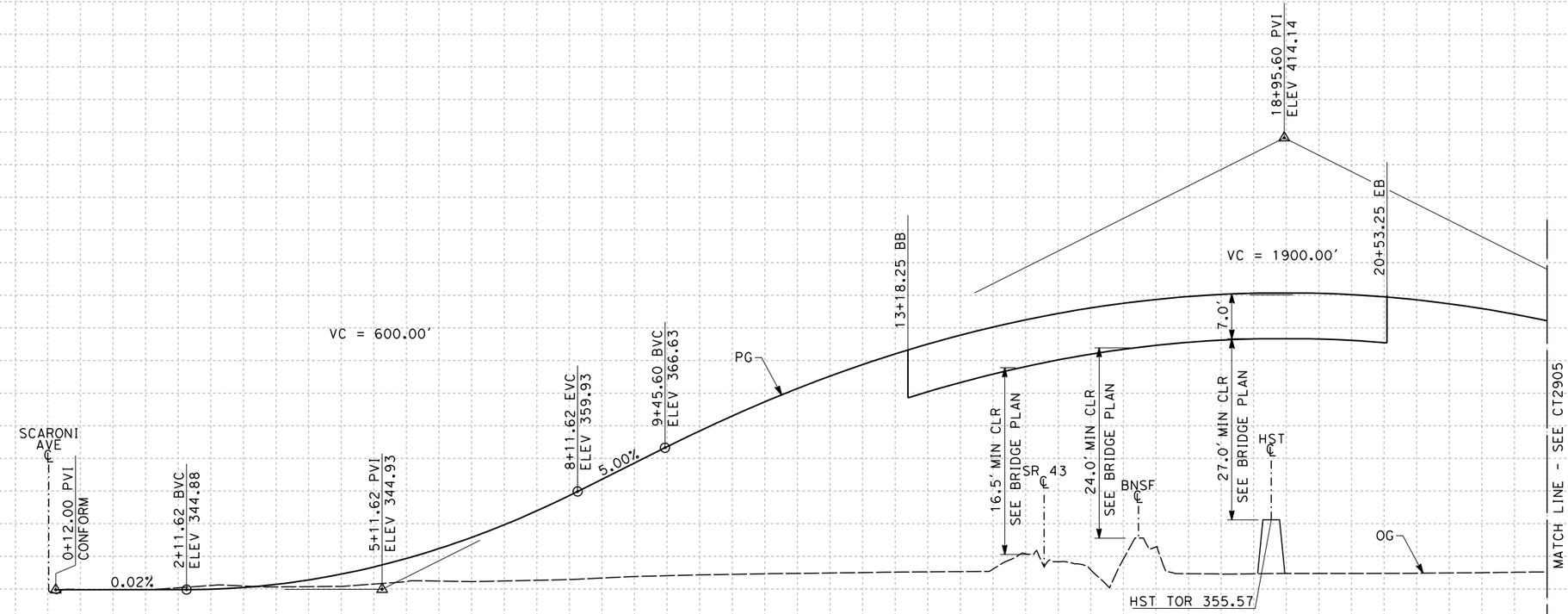
CONTRACT NO. HSR 06-003
DRAWING NO. CT2903
SCALE AS SHOWN
SHEET NO. 20 OF 67

$FILE$ $TIME$ $DATE$ $USER$

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

NOTES:

1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER BNSF IS 24.0' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE UNDER STRUCTURE IS 16.5' FROM ROAD SURFACE




**PROFILE**
"MER" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

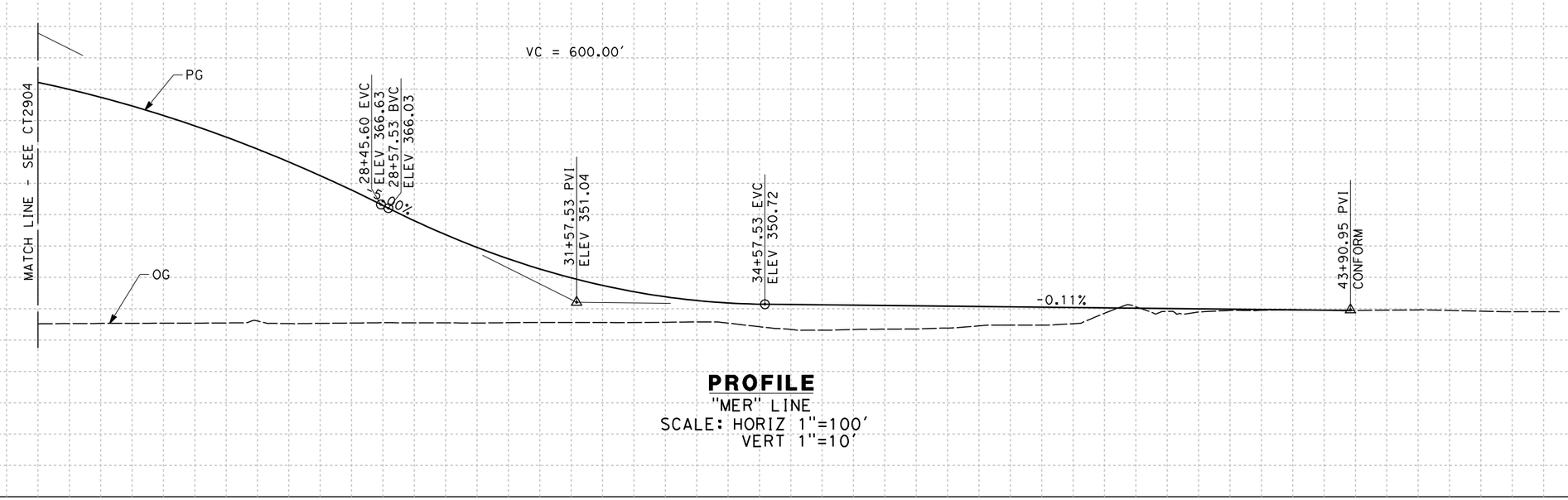
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
MERCED AVE

CONTRACT NO. HSR 06-003
DRAWING NO. CT2904
SCALE AS SHOWN
SHEET NO. 21 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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**PROFILE**
"MER" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 3 | 4 | 25 | 6 | 7 | 8 | 9 | 30 | 1 | 2 | 3 | 4 | 35 | 6 | 7 | 8 | 9 | 40 | 1 | 2 | 3 | 4 | 45 | 6 | 7 | 8 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
MERCED AVE

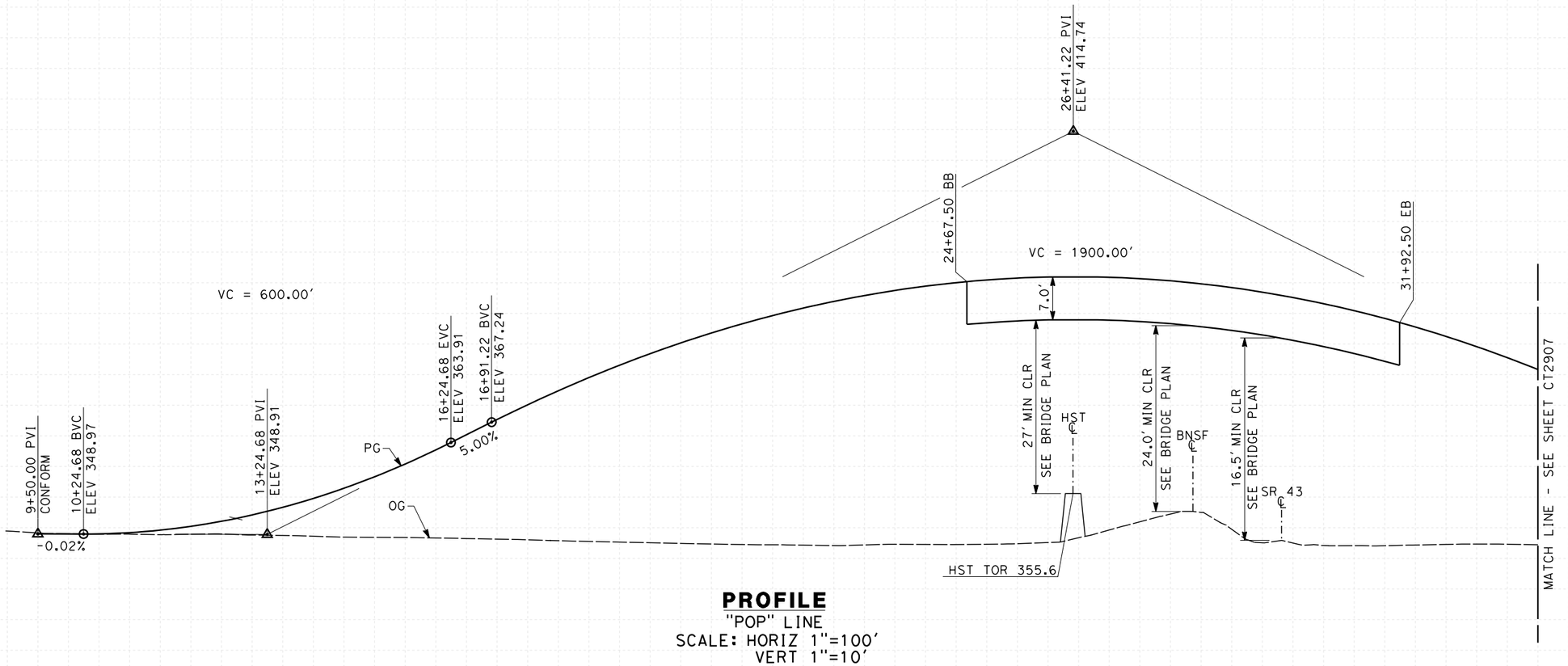
CONTRACT NO. HSR 06-003
DRAWING NO. CT2905
SCALE AS SHOWN
SHEET NO. 22 OF 67

RFP No. HSR 12-32 – INITIAL RELEASE - 05/27/2015

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NOTES:

1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER BNSF IS 24.0' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE UNDER STRUCTURE IS 16.5' FROM ROAD SURFACE




**PROFILE**
"POP" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | | 9 | 10 | 1 | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | 6 | 7 | 8 | 9 | 30 | 1 | 2 | 3 | 4 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY | Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

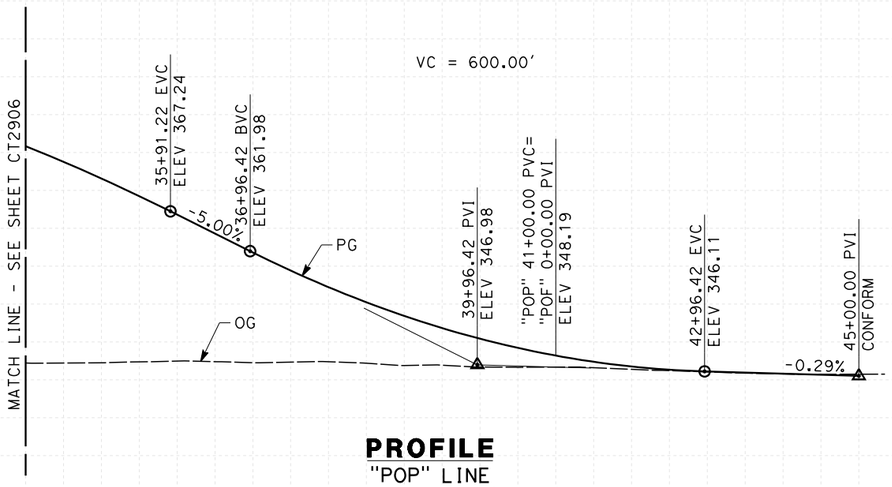
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
POPLAR AVE

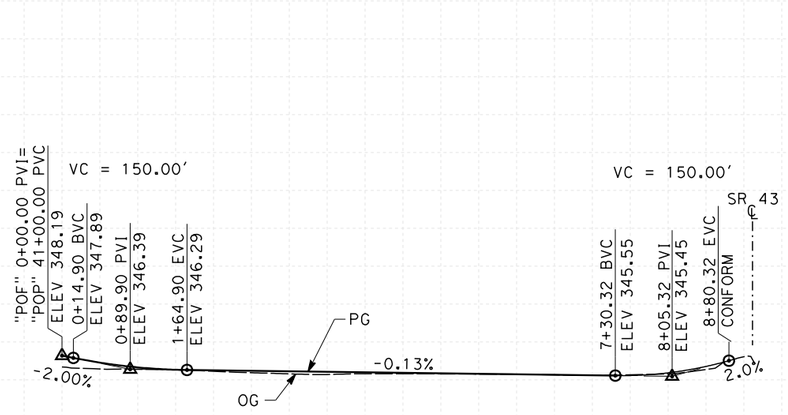
CONTRACT NO. HSR 06-003
DRAWING NO. CT2906
SCALE AS SHOWN
SHEET NO. 23 OF 67

RFP NO. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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**PROFILE**
"POP" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'




**PROFILE**
"POF" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 4 | 35 | 6 | 7 | 8 | 9 | 40 | 1 | 2 | 3 | 4 | 45 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
POPLAR AVE AND POPLAR CONNECTOR

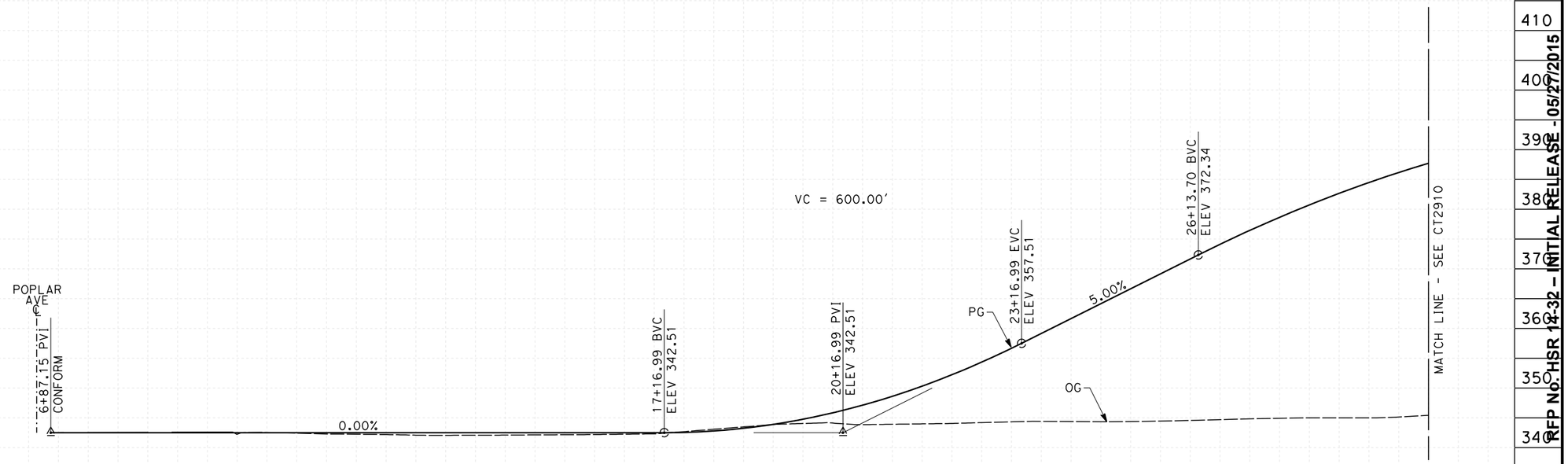
CONTRACT NO. HSR 06-003
DRAWING NO. CT2907
SCALE AS SHOWN
SHEET NO. 24 OF 67

RFP NO. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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NOTES:

1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER BNSF IS 24.0' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE UNDER STRUCTURE IS 16.5' FROM ROAD SURFACE




**PROFILE**
"FRES" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | 6 | 7 | 8 | 9 | 30 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY | Exc | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Emb | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

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CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

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URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

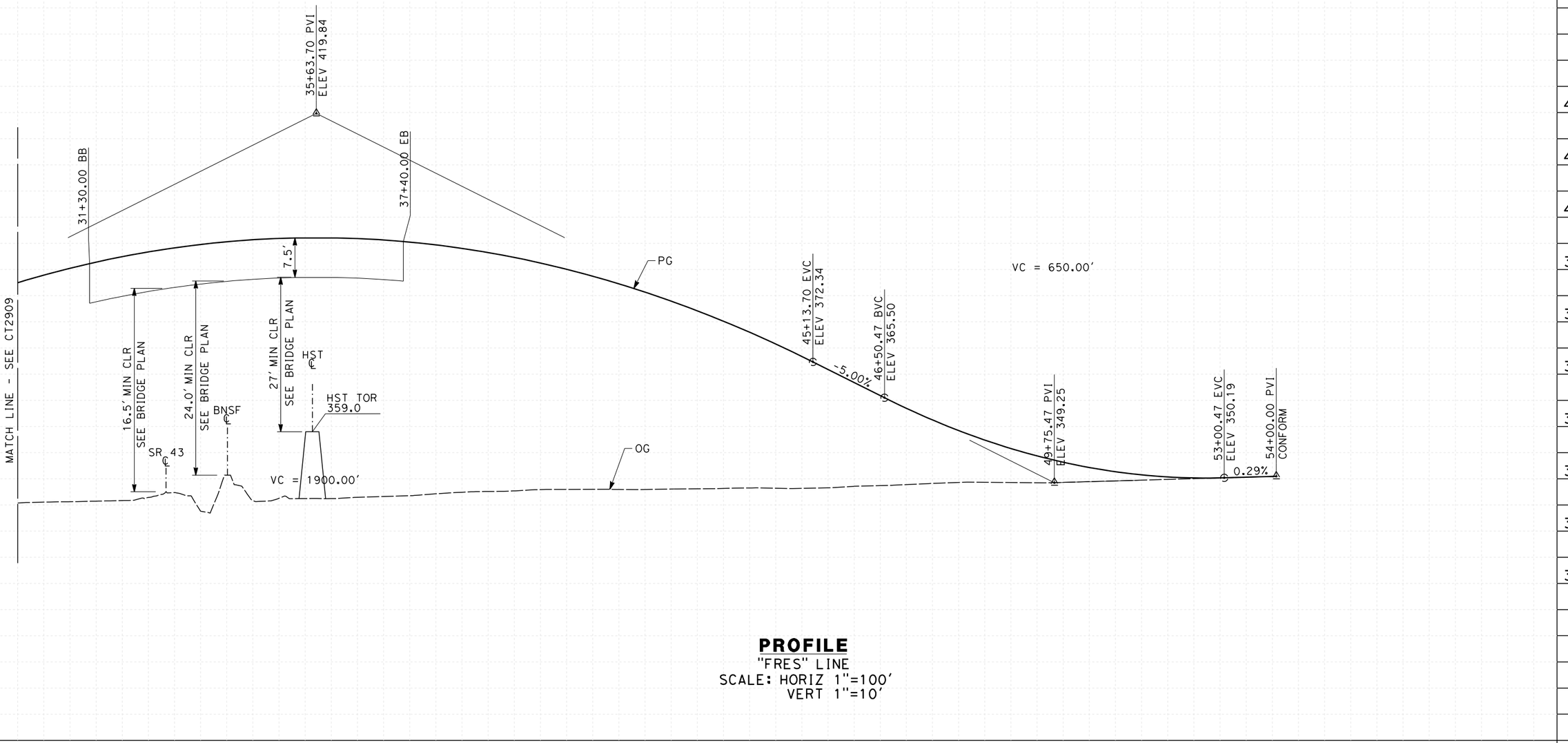
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
FRESNO AVE

CONTRACT NO. HSR 06-003
DRAWING NO. CT2909
SCALE AS SHOWN
SHEET NO. 25 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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## PROFILE

"FRES" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 30 | 1 | 2 | 3 | 4 | 35 | 6 | 7 | 8 | 9 | 40 | 1 | 2 | 3 | 4 | 45 | 6 | 7 | 8 | 9 | 50 | 1 | 2 | 3 | 4 | 55 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

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DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
FRESNO AVE

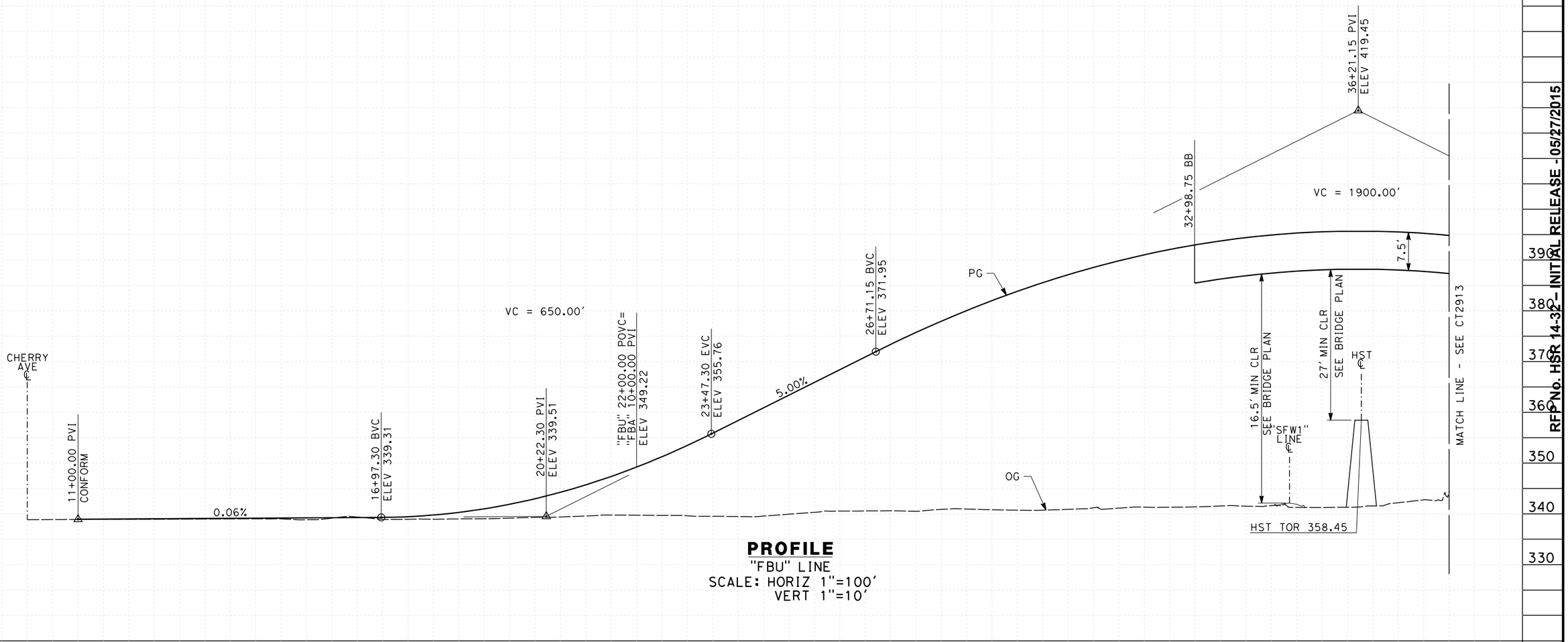
CONTRACT NO. HSR 06-003
DRAWING NO. CT2910
SCALE AS SHOWN
SHEET NO. 26 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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CLI60413

NOTES:

1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER BNSF IS 24' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE UNDER STRUCTURE IS 16.5' FROM ROAD SURFACE




**PROFILE**
"FBU" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 10 | 1 | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | 6 | 7 | 8 | 9 | 30 | 1 | 2 | 3 | 4 | 35 | 6 | 7 | 8 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

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DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

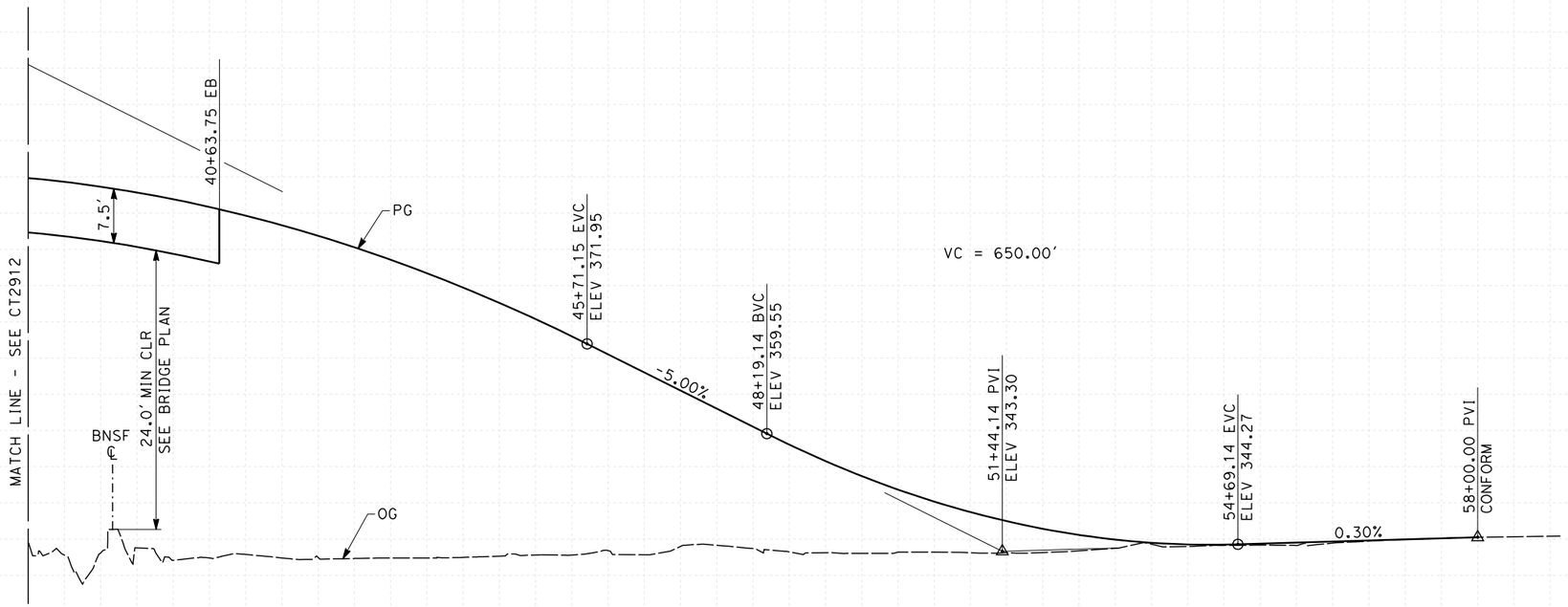
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
BURBANK ST & CHERRY AVE

CONTRACT NO. HSR 06-003
DRAWING NO. CT2912
SCALE AS SHOWN
SHEET NO. 27 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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CLI60413




**PROFILE**
"FBU" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 8 | 9 | 40 | 1 | 2 | 3 | 4 | 45 | 6 | 7 | 8 | 9 | 50 | 1 | 2 | 3 | 4 | 55 | 6 | 7 | 8 | 9 | 60 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

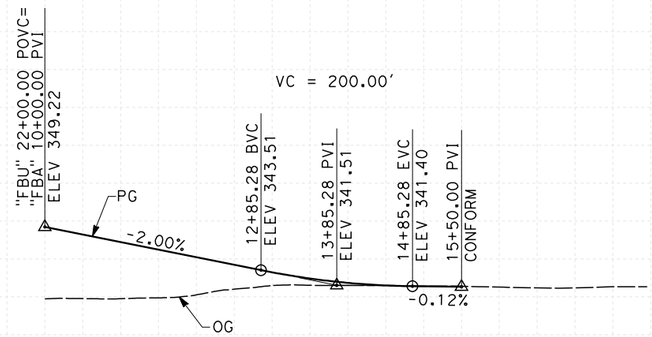
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
BURBANK ST

CONTRACT NO. HSR 06-003
DRAWING NO. CT2913
SCALE AS SHOWN
SHEET NO. 28 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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CLI60413




## PROFILE

"FBA" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | | 10 | 1 | 2 | 3 | 4 | 15 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| CY | Exc | | | | | | | |
| | Emb | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
GRADE SEPARATION PROFILE
BURBANK CONNECTOR

CONTRACT NO. HSR 06-003
DRAWING NO. CT2914
SCALE AS SHOWN
SHEET NO. 29 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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CLI60413

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 10 | S 44°16'21" E | 1130.22' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| 10 | 3200.00' | 05°33'39" | 155.41' | 310.57' |
| 11 | 3200.00' | 04°53'14" | 136.56' | 272.96' |
| 12 | 15000.00' | 03°26'25" | 450.45' | 900.64' |

LOS ANGELES AVE

RETENTION BASIN

RADIO SITE (NORTH OPTION)

RADIO SITE (SOUTH OPTION)

HST ROW

6025+00

6030+00

6035+00

S 40°49'57" E
L=3507.73

6040+00

6045+00

"WS1" LINE

BNSF

SANTA FE WAY

CONFORM

R=40'

R=50'

R=20'

R=35'

"SFW1" 7+50.00 BC
CONFORM

"SFW1" 10+60.57 PRC

CONFORM

"SFW1" 13+33.53 EC

"SFW1" LINE

TOE OF FILL

EP

40'

ROADWAY ROW

CONFORM

R=35'

"SFW1" 24+63.75 BC

MATCH LINE - SEE CR1901

BEECH AVE

100 0 100 200

SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

$FILE$ $TIME$ $DATE$ $USER$

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY: A. CANNON
DRAWN BY: E. SUDHAUSEN
CHECKED BY: S. BROWN
IN CHARGE: R. COFFIN
DATE: 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
California High-Speed Train

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY LAYOUT
SANTA FE WAY

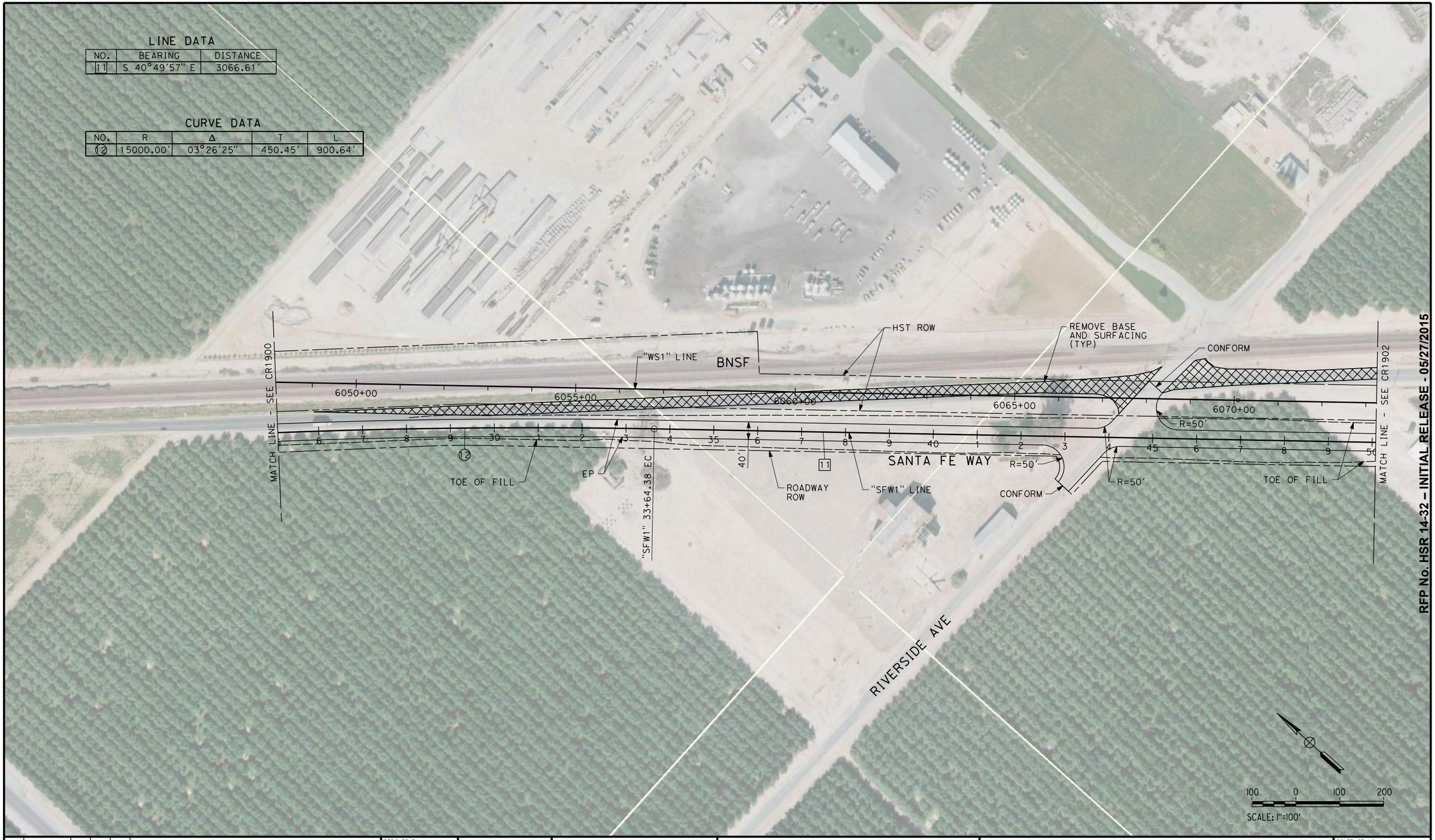
CONTRACT NO. HSR 06-0003
DRAWING NO. CR1900
SCALE AS SHOWN
SHEET NO. 35 OF 67

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 11 | S 40°49'57" E | 3066.61' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| 12 | 15000.00' | 03°26'25" | 450.45' | 900.64' |




| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY LAYOUT
SANTA FE WAY

CONTRACT NO. HSR 06-0003
DRAWING NO. CR1901
SCALE AS SHOWN
SHEET NO. 36 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

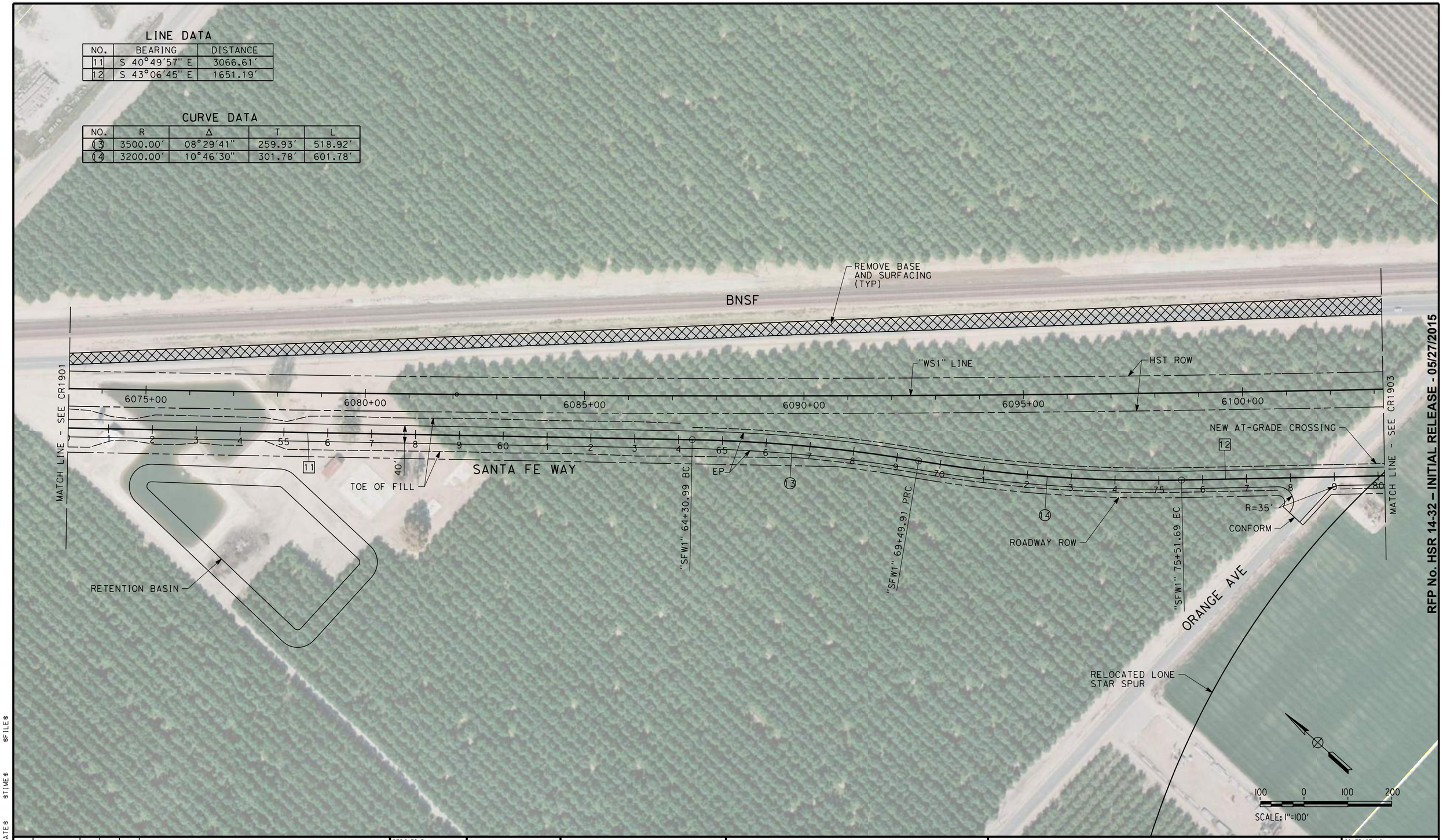
$USER$ $DATE$ $TIME$ $FILE$

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 11 | S 40°49'57" E | 3066.61' |
| 12 | S 43°06'45" E | 1651.19' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| 13 | 3500.00' | 08°29'41" | 259.93' | 518.92' |
| 14 | 3200.00' | 10°46'30" | 301.78' | 601.78' |




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

$FILE$ $TIME$ $DATE$ $USER$

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
California High-Speed Train

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY LAYOUT
SANTA FE WAY

CONTRACT NO. HSR 06-0003
DRAWING NO. CR1902
SCALE AS SHOWN
SHEET NO. 37 OF 67

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 12 | S 43°06'45" E | 1651.19' |
| 13 | S 46°16'12" E | 1037.51' |
| 20 | S 01°19'43" W | 2000.00' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| 15 | 3200.00' | 11°24'34" | 319.67' | 637.22' |
| 16 | 3500.00' | 08°15'07" | 252.48' | 504.08' |

"CHY" 0+00.00 PT

CHERRY AVE

"CHY" LINE

"CHY" 7+50.00 CONFORM

NEW AT-GRADE RR CROSSING

RELOCATED LONE STAR SPUR

REMOVE BASE AND SURFACING (TYP)

BNSF

"WS1" 6109+75.00 POC= "CHY" 10+31.04 POT

HST ROW

"WS1" LINE

6105+00

6110+00

6115+00

6120+00

6125+00

6130+00

MATCH LINE - SEE CR1902

ROADWAY ROW

R=35'

R=50'

SANTA FE WAY

EP

"SFW1" LINE

NEW AT-GRADE RR CROSSING

"SFW1" 88+74.32 POT= "CHY" 13+17.24 POT

TOE OF FILL

"SFW1" 92+02.88 BC

"CHY" 17+50.00 CONFORM

"SFW1" 98+40.10 PRC

ROADWAY ROW

"SFW1" 103+44.18 EC

TOE OF FILL

MATCH LINE - SEE CR1904

"CHY" 20+00.00 PT

CHERRY AVE

100 0 100 200

SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

$DATE$ $TIME$ $FILE$ $USER$

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY LAYOUT
SANTA FE WAY

CONTRACT NO. HSR 06-0003
DRAWING NO. CR1903
SCALE AS SHOWN
SHEET NO. 38 OF 67

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 13 | S 46°16'12" E | 1037.51' |
| 14 | S 20°29'05" E | 257.03' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| (17) | 20000.00' | 02°55' 35" | 510.84' | 1021.46' |
| (18) | 2000.00' | 22°51'53" | 404.34' | 797.93' |
| (19) | 3200.00' | 23°45'20" | 673.05' | 1326.76' |

OLEANDER ST
1ST ST
ROADWAY ROW
SEE SHEETS CT1912 & CT1913 FOR BURBANK ST
REMOVE EXIST AT-GRADE CROSSING
CONFORM
REMOVE BASE AND SURFACING
BNSF
"FBU" LINE
ROADWAY ROW
REMOVE BASE & SURFACING
"WS1" LINE
6160+00
6155+00
6150+00
6145+00
6140+00
6135+00
"SFW1" 113+81.69 BC
HST ROW
"SFW1" 124+03.14 BCC
"SFW1" LINE
SANTA FE WAY
HST ROW
EXIST LONE STAR SPUR TO BE RELOCATED
EP
"FBU" 36+12.95 POT=
"WS1" 6145+39.29 POT
ROADWAY ROW
ROADWAY ROW
ROADWAY ROW
"SFW1" 132+01.07 EC
"SFW1" 134+58.10 BC
TOE OF FILL
MATCH LINE - SEE CR1903
MATCH LINE - SEE CR1905
R=50'
R=50'
CONFORM
ROADWAY ROW
"FBU" 34+85.38 POT=
"SFW1" 121+67.38 POT
"FBU" 31+85.62 EC
BURBANK CONNECTOR
BURBANK ST
HST ROW
100 0 100 200
SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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BAR59603

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY LAYOUT
SANTA FE WAY

CONTRACT NO. HSR 06-0003
DRAWING NO. CR1904
SCALE AS SHOWN
SHEET NO. 39 OF 67

BNSF

REMOVE BASE AND SURFACING

HST ROW

"WS1" LINE

6165+00 6170+00 6175+00 6180+00 6185+00 6190+0

HST ROW HST ROW HST ROW

MATCH LINE - SEE CR1904

MATCH LINE - SEE CR1906

TOE OF FILL

EP

40'

ROADWAY ROW

SANTA FE WAY

"SFW1" 147+84.86 EC

"SFW1" 160+15.46 BC

"SFW1" 169+21.38 EC

"SFW1"

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 15 | S 44°14'25" E | 1230.60' |
| 16 | S 61°22'26" E | 1175.20' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| 19 | 3200.00' | 23°45'20" | 673.05' | 1326.76' |
| 20 | 3200.00' | 17°08'01" | 482.06' | 956.92' |

100 0 100 200

SCALE: 1"=100'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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BAR59603

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY LAYOUT
SANTA FE WAY

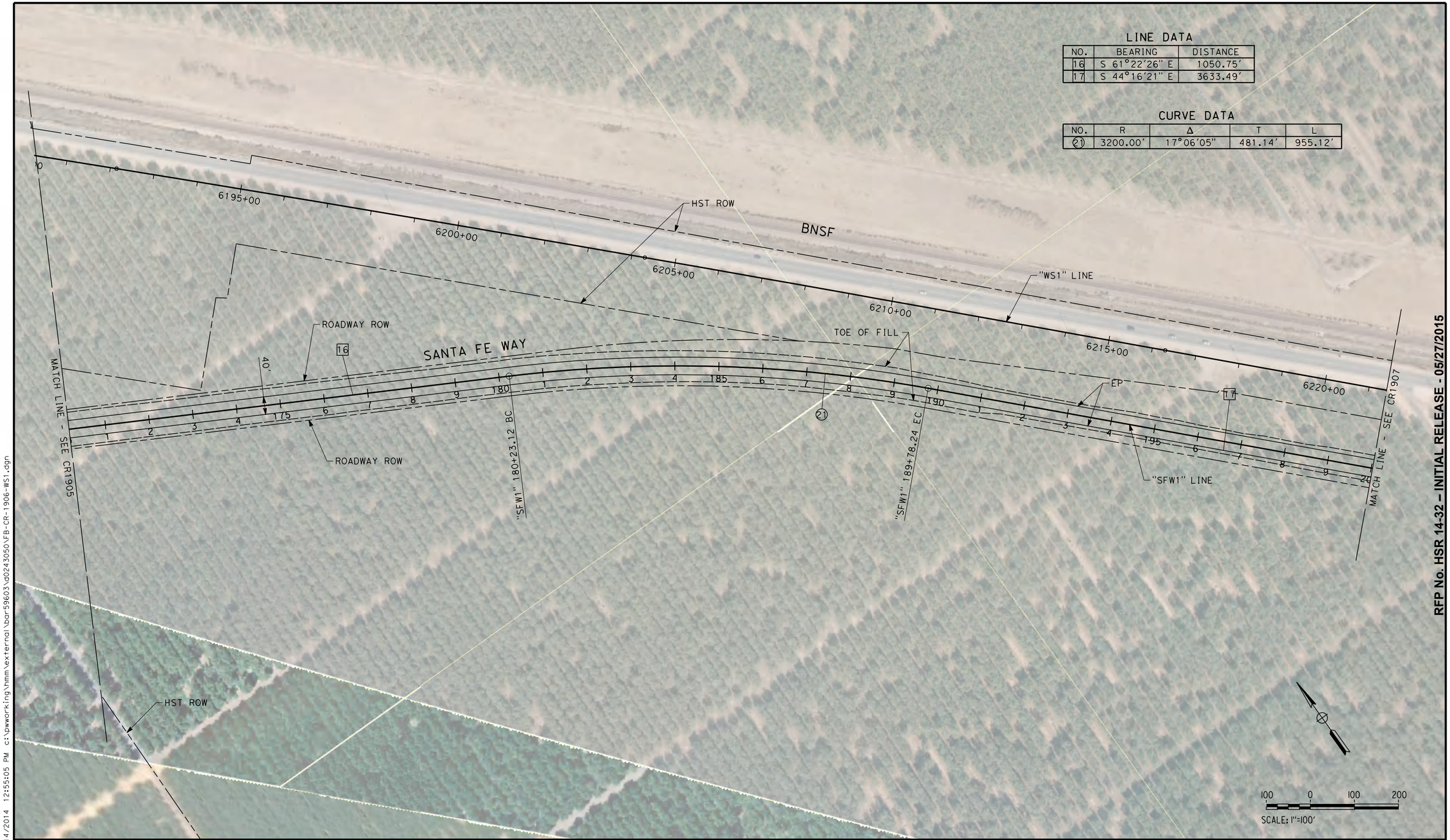
CONTRACT NO. HSR 06-0003
DRAWING NO. CR1905
SCALE AS SHOWN
SHEET NO. 40 OF 67

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 16 | S 61°22'26" E | 1050.75' |
| 17 | S 44°16'21" E | 3633.49' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| 21 | 3200.00' | 17°06'05" | 481.14' | 955.12' |




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 05/23/14

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY LAYOUT
SANTA FE WAY

CONTRACT NO. HSR 06-0003
DRAWING NO. CR1906
SCALE AS SHOWN
SHEET NO. 41 OF 67

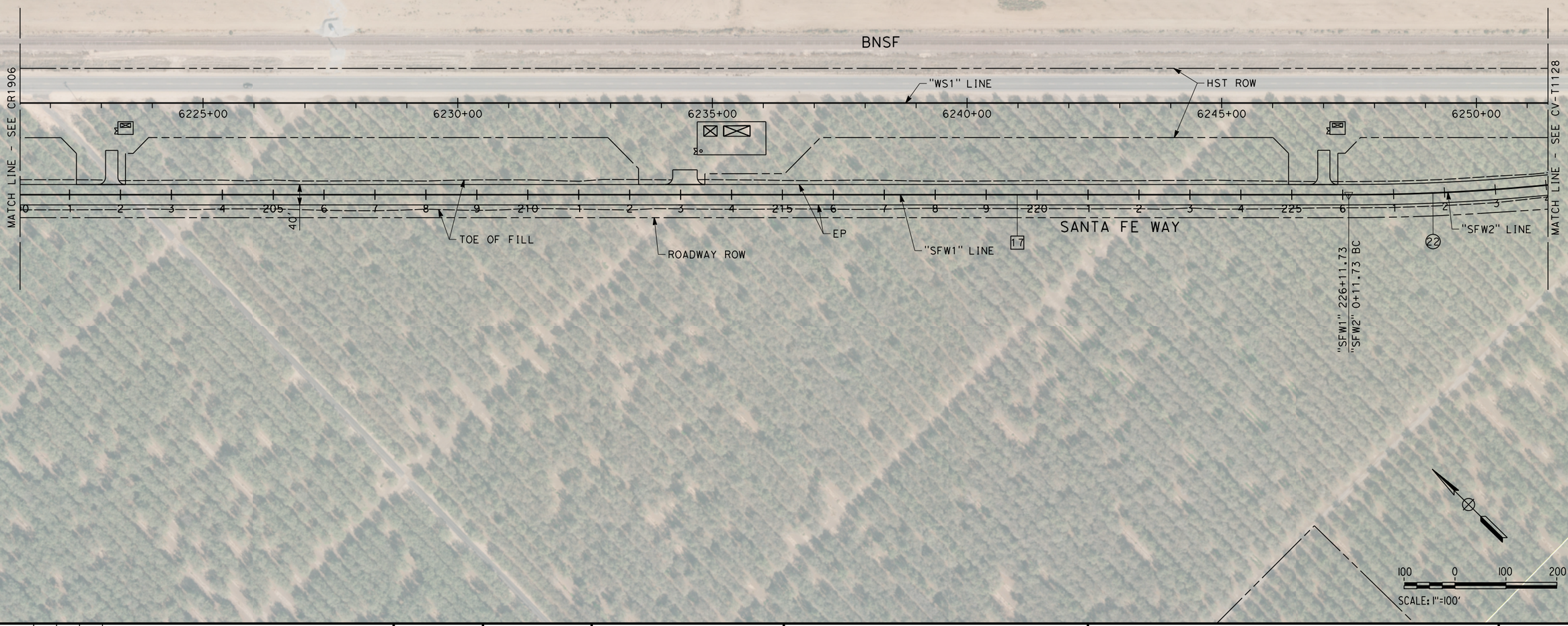
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BAR59603

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 17 | S 44°16'21" E | 3633.49' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| 22 | 4000.00' | 10°14'31" | 358.47' | 715.02' |




| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY T. CLIFFORD
DRAWN BY D. MORENO
CHECKED BY B. RAWSON
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY LAYOUT
SANTA FE WAY

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1127
SCALE AS SHOWN
SHEET NO. 42 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

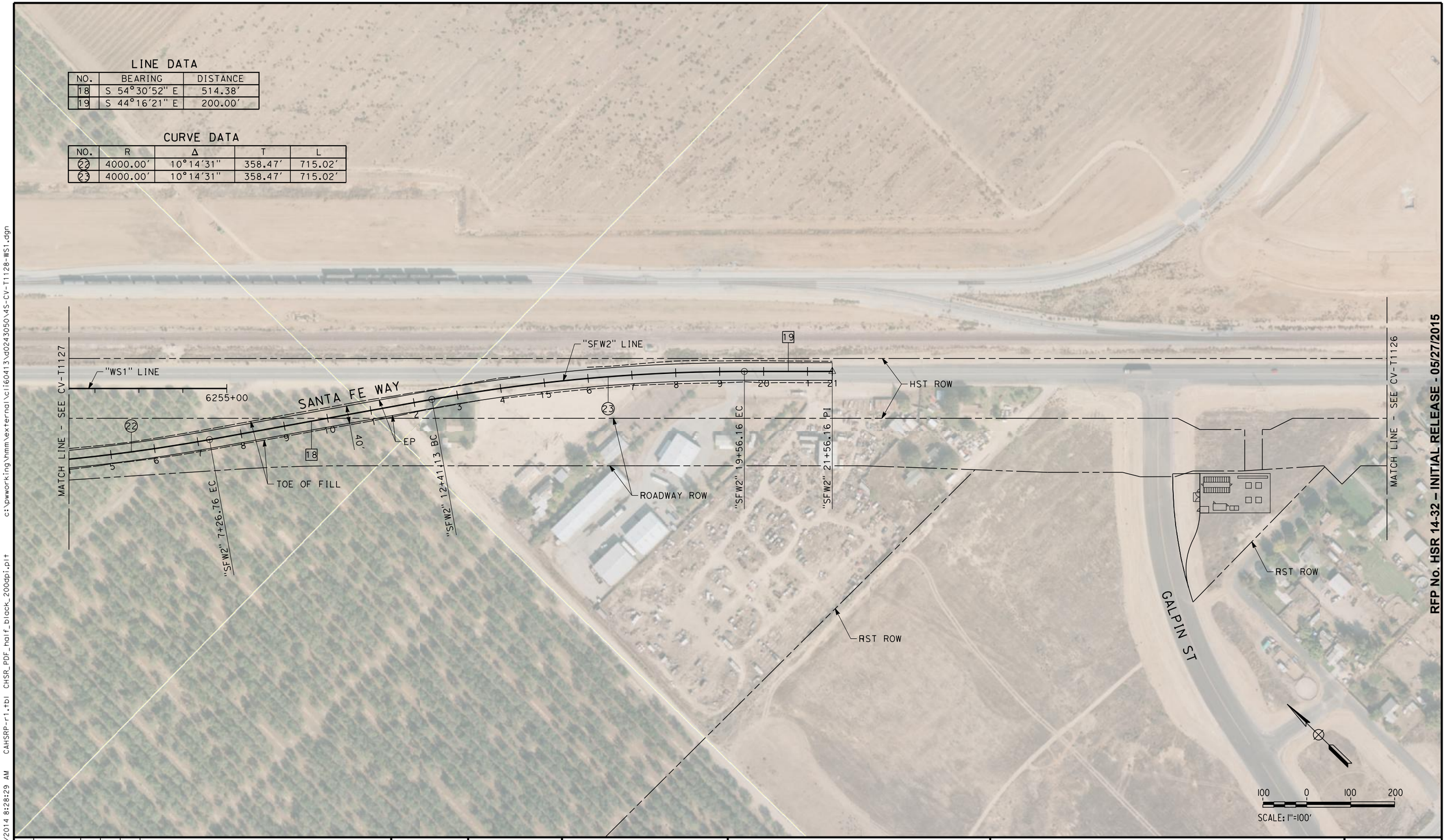
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CLI60413

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 18 | S 54°30'52" E | 514.38' |
| 19 | S 44°16'21" E | 200.00' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| 22 | 4000.00' | 10°14'31" | 358.47' | 715.02' |
| 23 | 4000.00' | 10°14'31" | 358.47' | 715.02' |




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY T. CLIFFORD
DRAWN BY D. MORENO
CHECKED BY B. RAWSON
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

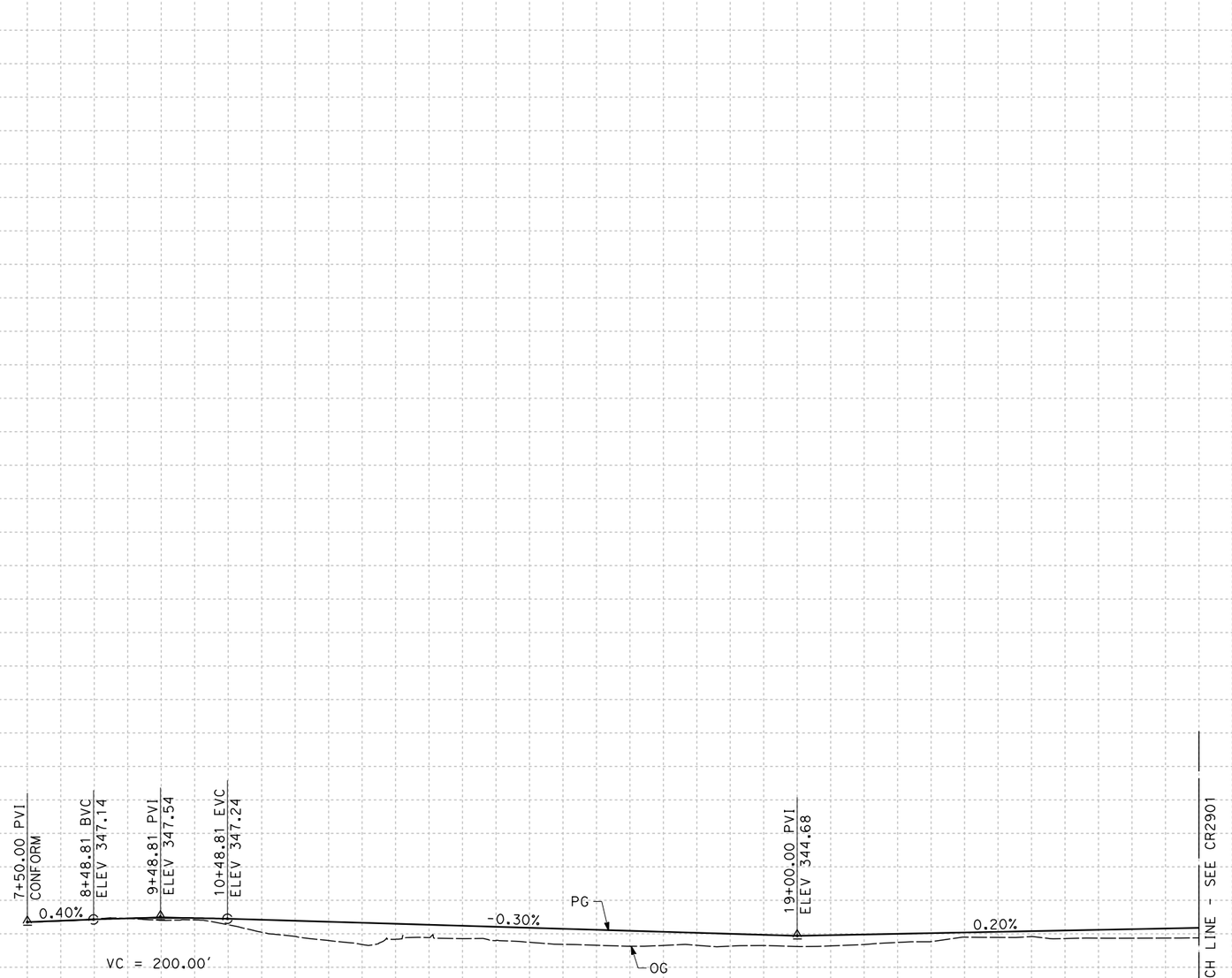
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY LAYOUT
SANTA FE WAY

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1128
SCALE AS SHOWN
SHEET NO. 43 OF 67

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CLI60413

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015




**PROFILE**
"SFW1" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

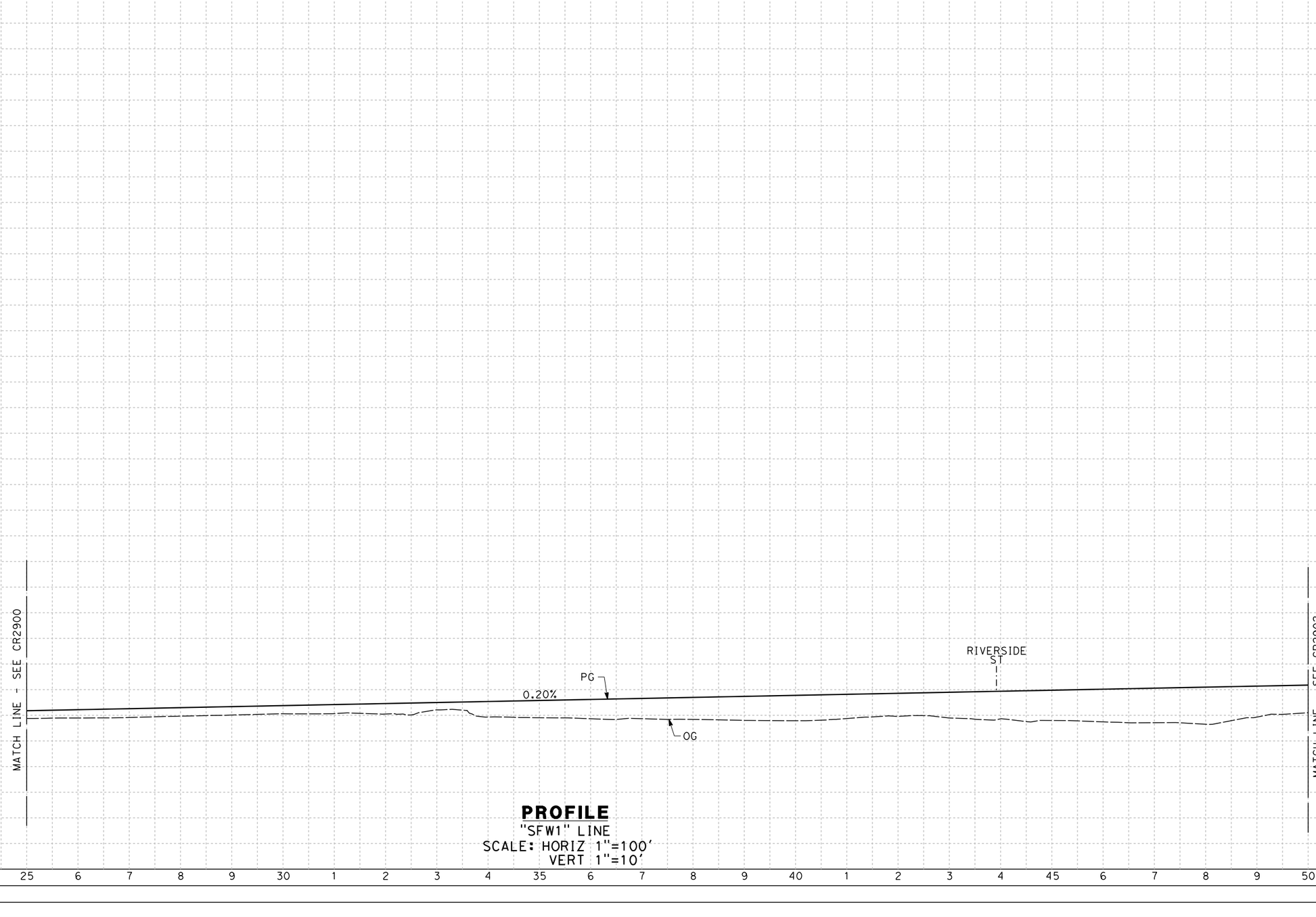
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY PROFILE
SANTA FE WAY

CONTRACT NO. HSR 06-003
DRAWING NO. CR2900
SCALE AS SHOWN
SHEET NO. 50 OF 67

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BAR59603

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015




**PROFILE**
"SFW1" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 25 | 6 | 7 | 8 | 9 | 30 | 1 | 2 | 3 | 4 | 35 | 6 | 7 | 8 | 9 | 40 | 1 | 2 | 3 | 4 | 45 | 6 | 7 | 8 | 9 | 50 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

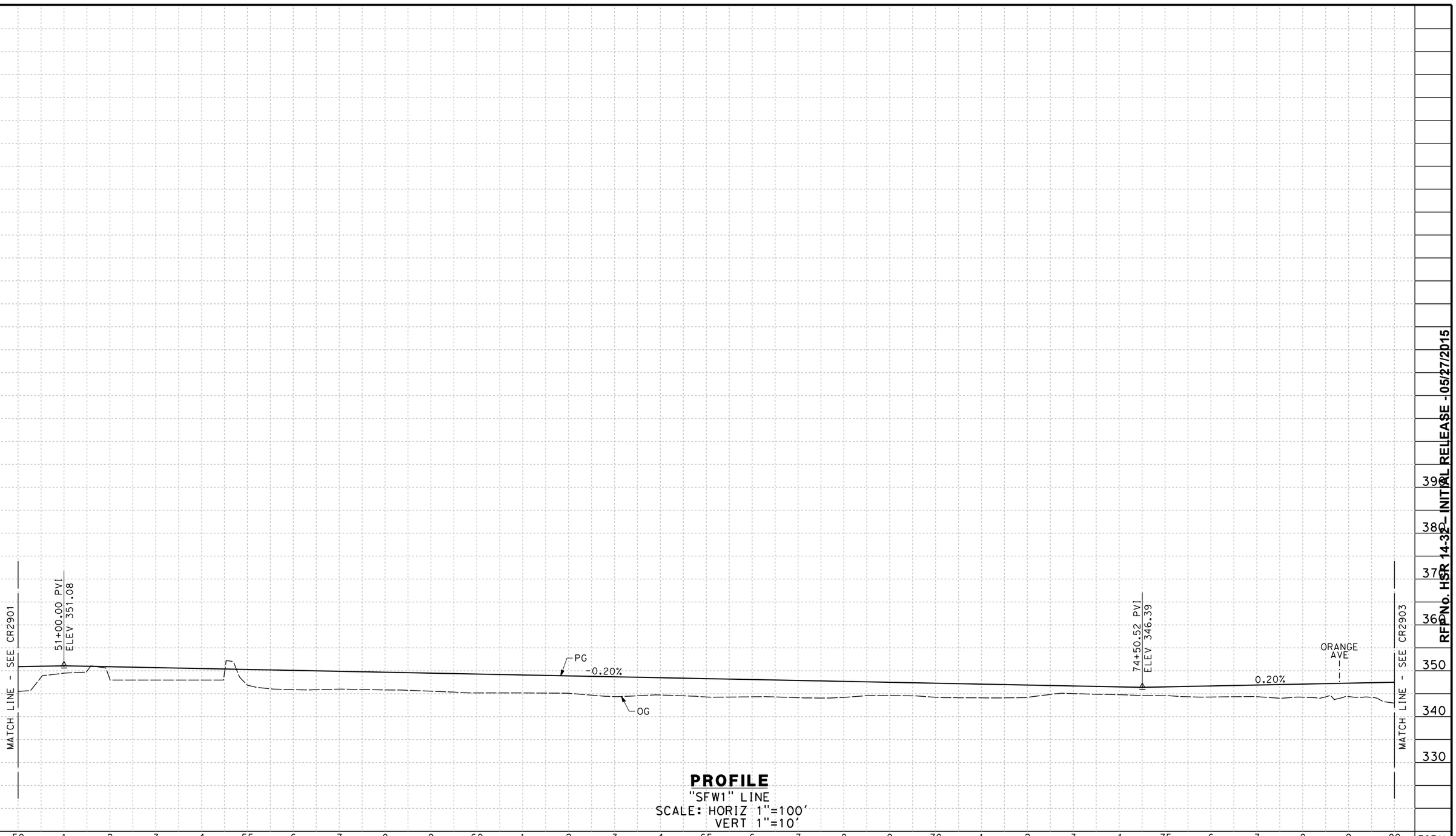
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY PROFILE
SANTA FE WAY

CONTRACT NO. HSR 06-003
DRAWING NO. CR2901
SCALE AS SHOWN
SHEET NO. 51 OF 67

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BAR59603

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015




**PROFILE**
"SFW1" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

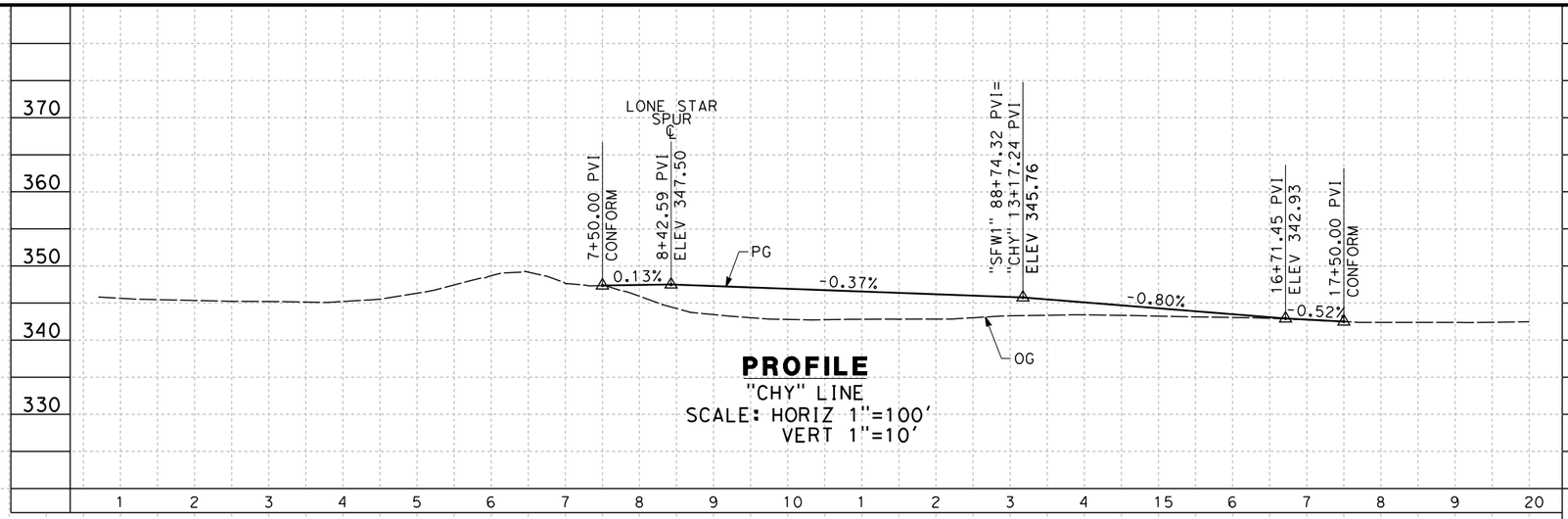
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

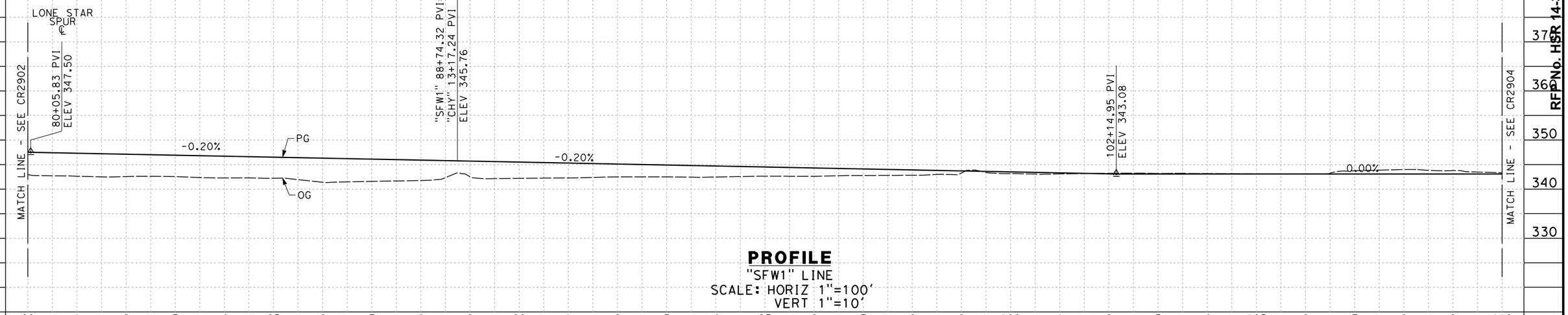
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY PROFILE
SANTA FE WAY

CONTRACT NO. HSR 06-003
DRAWING NO. CR2902
SCALE AS SHOWN
SHEET NO. 52 OF 67

8/13/2014 9:40:40 AM c:\pwworking\hmm\external\bar59603\dms726211\FB-CR-2902-WS1.dgn
BAR59603




**PROFILE**
"CHY" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'




**PROFILE**
"SFW1" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY S. BROWN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

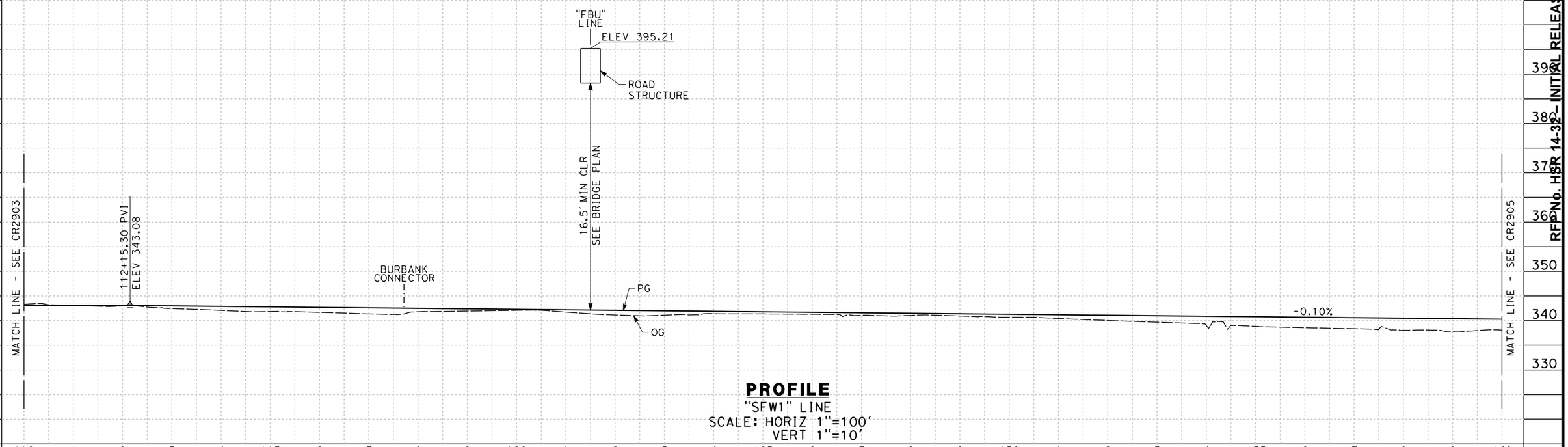
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY PROFILE
SANTA FE WAY & W CHERRY AVE

CONTRACT NO. HSR 06-003
DRAWING NO. CR2903
SCALE AS SHOWN
SHEET NO. 53 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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BAR59603




**PROFILE**
"SFW1" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 110 | 1 | 2 | 3 | 4 | 115 | 6 | 7 | 8 | 9 | 120 | 1 | 2 | 3 | 4 | 125 | 6 | 7 | 8 | 9 | 130 | 1 | 2 | 3 | 4 | 135 | 6 | 7 | 8 | 9 | 140 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

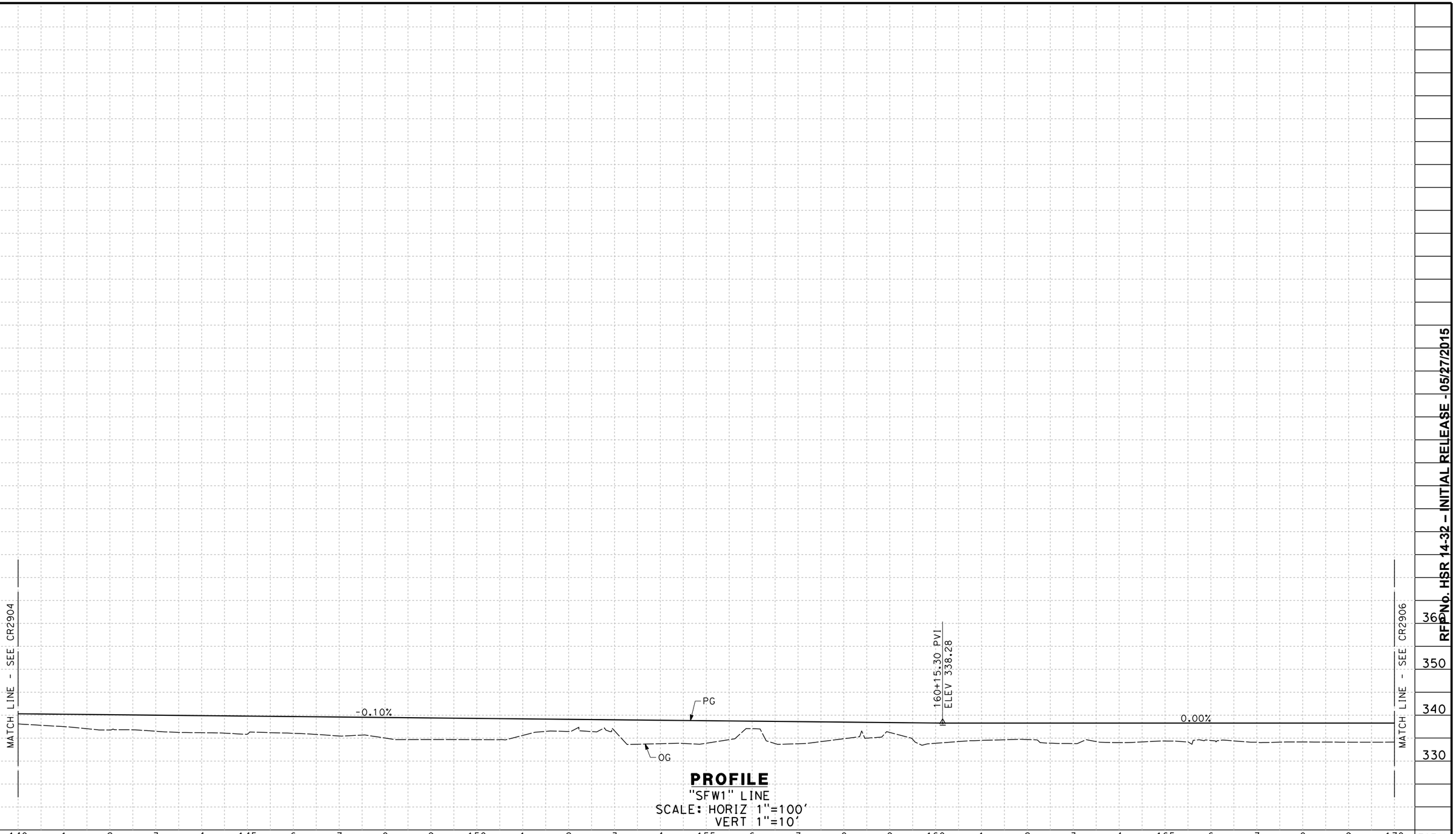
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY PROFILE
SANTA FE WAY

CONTRACT NO. HSR 06-003
DRAWING NO. CR2904
SCALE AS SHOWN
SHEET NO. 54 OF 67

RFP No. HSR 14-32 - INITIAL RELEASE - 05/27/2015

BAR59603 8/13/2014 9:41:57 AM c:\pwworking\hmm\external\bar59603\dms72621\FB-CR-2904-WS1.dgn




**PROFILE**
"SFW1" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 140 | 1 | 2 | 3 | 4 | 145 | 6 | 7 | 8 | 9 | 150 | 1 | 2 | 3 | 4 | 155 | 6 | 7 | 8 | 9 | 160 | 1 | 2 | 3 | 4 | 165 | 6 | 7 | 8 | 9 | 170 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

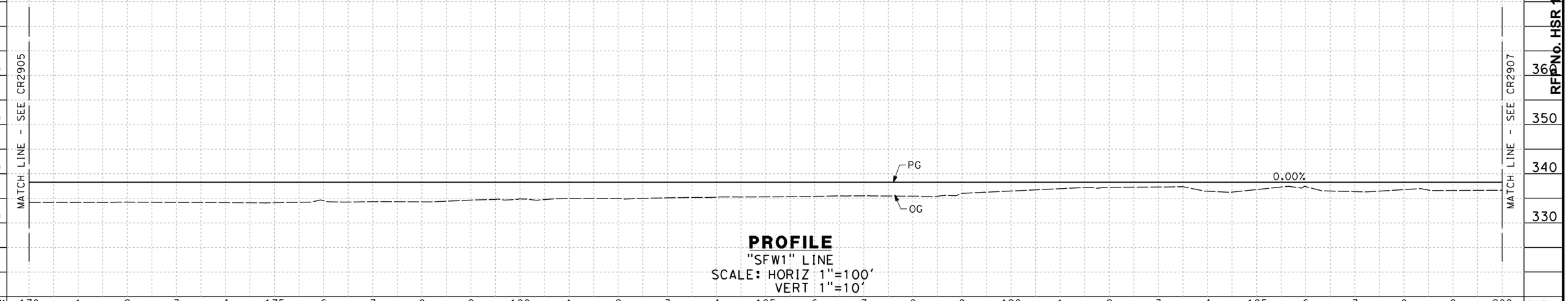
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY PROFILE
SANTA FE WAY

CONTRACT NO. HSR 06-003
DRAWING NO. CR2905
SCALE AS SHOWN
SHEET NO. 55 OF 67

**RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015**

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BAR59603

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015




**PROFILE**
"SFW1" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 170 | 1 | 2 | 3 | 4 | 175 | 6 | 7 | 8 | 9 | 180 | 1 | 2 | 3 | 4 | 185 | 6 | 7 | 8 | 9 | 190 | 1 | 2 | 3 | 4 | 195 | 6 | 7 | 8 | 9 | 200 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 05/23/14

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

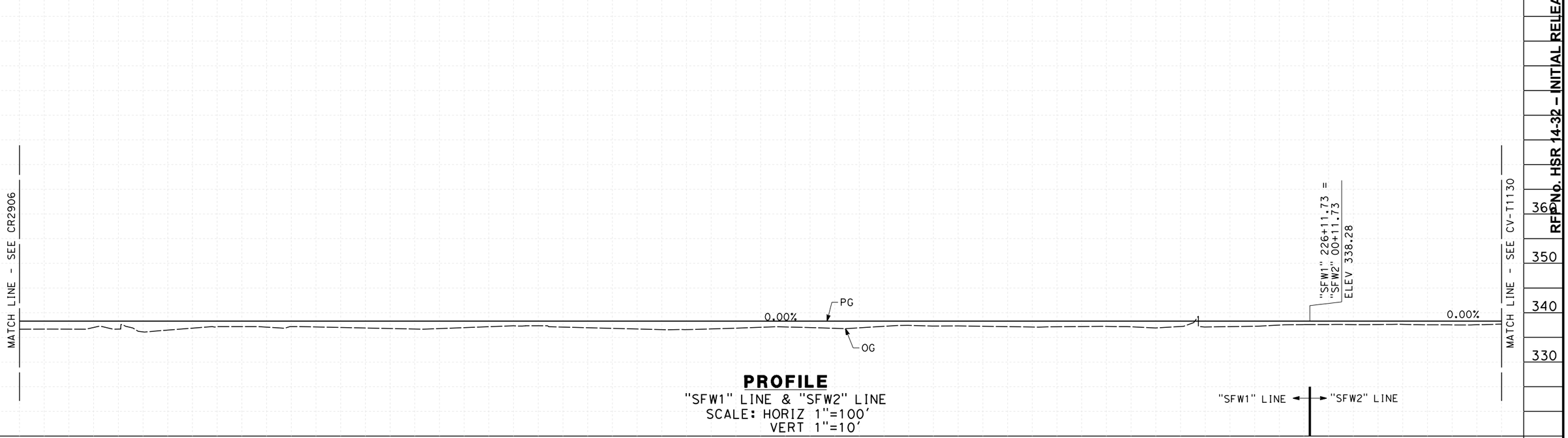
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY PROFILE
SANTA FE WAY

CONTRACT NO. HSR 06-003
DRAWING NO. CR2906
SCALE AS SHOWN
SHEET NO. 56 OF 67

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BAR59603

c:\pwworking\hmm\external\cli60413\d0243050\V4S-CV-T1129-WS1.dgn
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CLI60413

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015




## PROFILE

"SFW1" LINE & "SFW2" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 200 | 1 | 2 | 3 | 4 | 205 | 6 | 7 | 8 | 9 | 210 | 1 | 2 | 3 | 4 | 215 | 6 | 7 | 8 | 9 | 220 | 1 | 2 | 3 | 4 | 225 | 6/0 | 1 | 2 | 3 | 4 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY T. CLIFFORD
DRAWN BY D. MORENO
CHECKED BY B. RAWSON
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

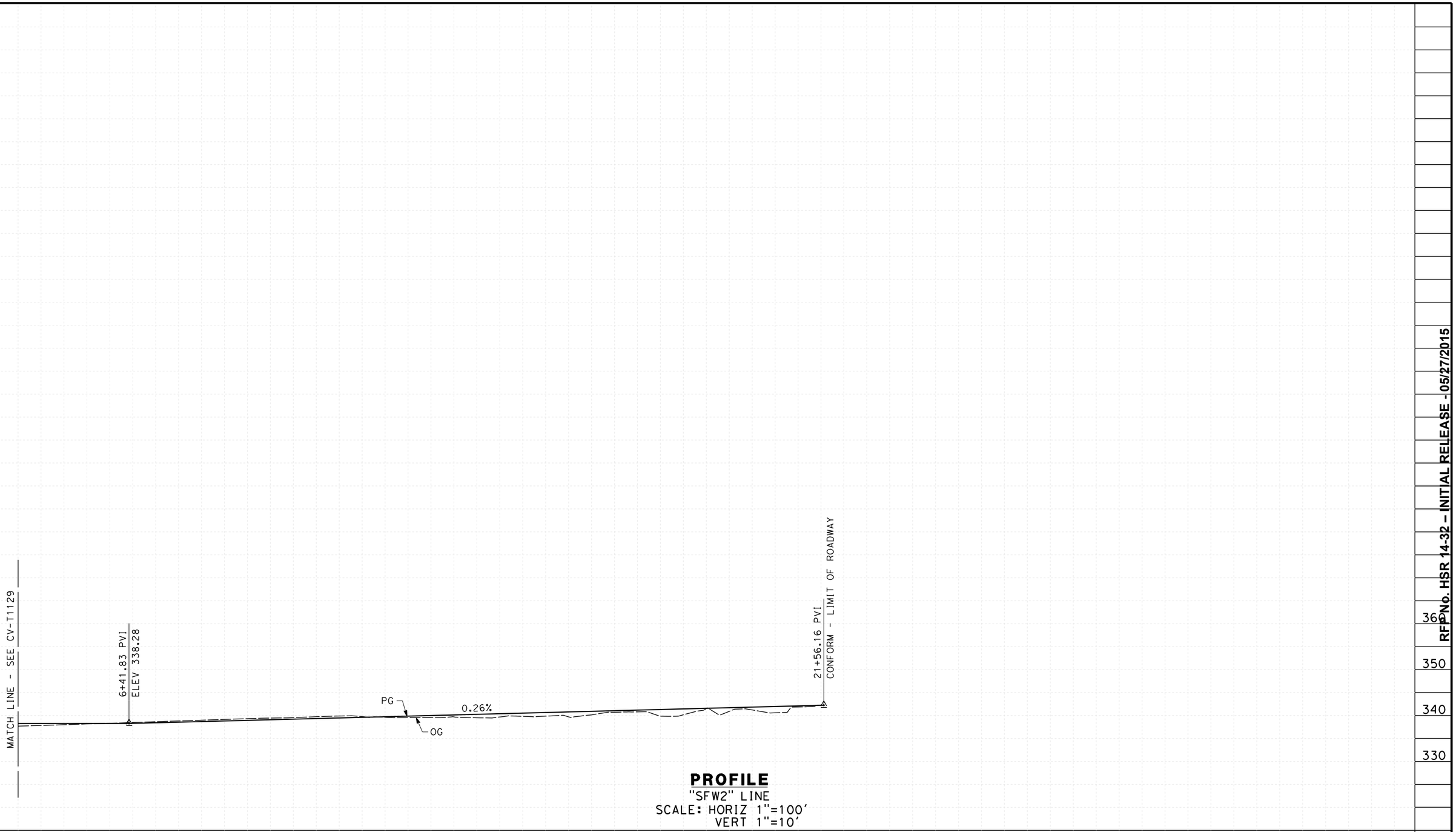
**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY PROFILE
SANTA FE WAY

CONTRACT NO. HSR 06-003
DRAWING NO. CV-T1129
SCALE AS SHOWN
SHEET NO. 57 OF 67




## PROFILE

"SFW2" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY T. CLIFFORD
DRAWN BY D. MORENO
CHECKED BY B. RAWSON
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

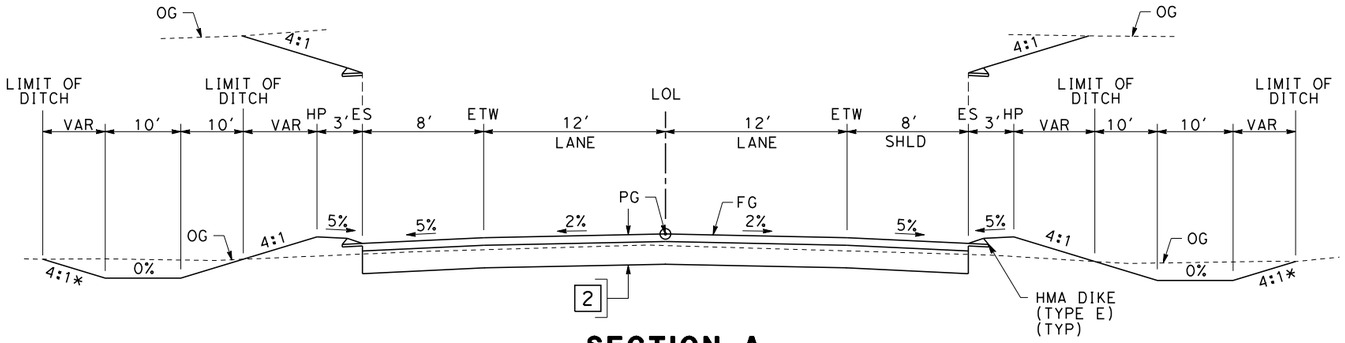
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY PROFILE
SANTA FE WAY

CONTRACT NO. HSR 06-003
DRAWING NO. CV-T1130
SCALE AS SHOWN
SHEET NO. 58 OF 67

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CLI60413

TABLE OF DESIGN SPEEDS

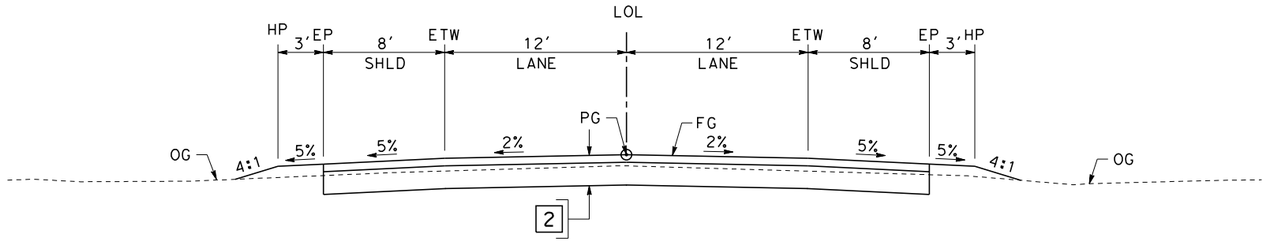
| STREET NAME | ALIGNMENT DESIGNATION | DESIGN SPEED | CRITERIA/JURISDICTION |
|---|---|---|---|
| MCCOMBS AVE | MCA | 65 | KERN COUNTY/KERN COUNTY |
| ANNIN CONNECTOR AND MCCOMBS CONNECTOR | AMCC / MCAC | 25 | KERN COUNTY/KERN COUNTY |
| KIMBERLINA RD | KBA | 55 | KERN COUNTY/KERN COUNTY |
| MERCED AVE | MER | 55 | CITY OF SHAFTER/CITY OF SHAFTER |
| POPLAR AVE | POP | 55 | CITY OF SHAFTER/CITY OF SHAFTER |
| POPLAR CONNECTOR | POF | 35 | CITY OF SHAFTER/CITY OF SHAFTER |
| FRESNO AVE | FRES | 55 | CITY OF SHAFTER/CITY OF SHAFTER |
| BURBANK AVE | FBU | 55 | CITY OF SHAFTER/CITY OF SHAFTER |
| BURBANK CONNECTOR | FBA | 25 | CITY OF SHAFTER/CITY OF SHAFTER |
| ~~7TH STANDARD RD~~ | ~~7TH~~ | ~~55~~ | ~~KERN COUNTY/KERN COUNTY~~ |
| ~~KRATZMEYER RD~~ | ~~KRT~~ | ~~55~~ | ~~CITY OF BAKERSFIELD/CITY OF BAKERSFIELD~~ |
| ~~KRATZMEYER CONNECTOR~~ | ~~KRF~~ | ~~30~~ | ~~CITY OF BAKERSFIELD/CITY OF BAKERSFIELD~~ |
| ~~RENFRO RD~~ | ~~FRN~~ | ~~65~~ | ~~KERN COUNTY/KERN COUNTY~~ |
| ~~NORIEGA RD~~ | ~~FNO~~ | ~~30~~ | ~~KERN COUNTY/KERN COUNTY~~ |
| SANTA FE WAY | SFW1 | 65 | KERN CO AND BAKERSFIELD/KERN CO AND BAKERSFIELD |
| CHERRY AVE | CHY | 65 | KERN COUNTY/KERN COUNTY |




## SECTION A

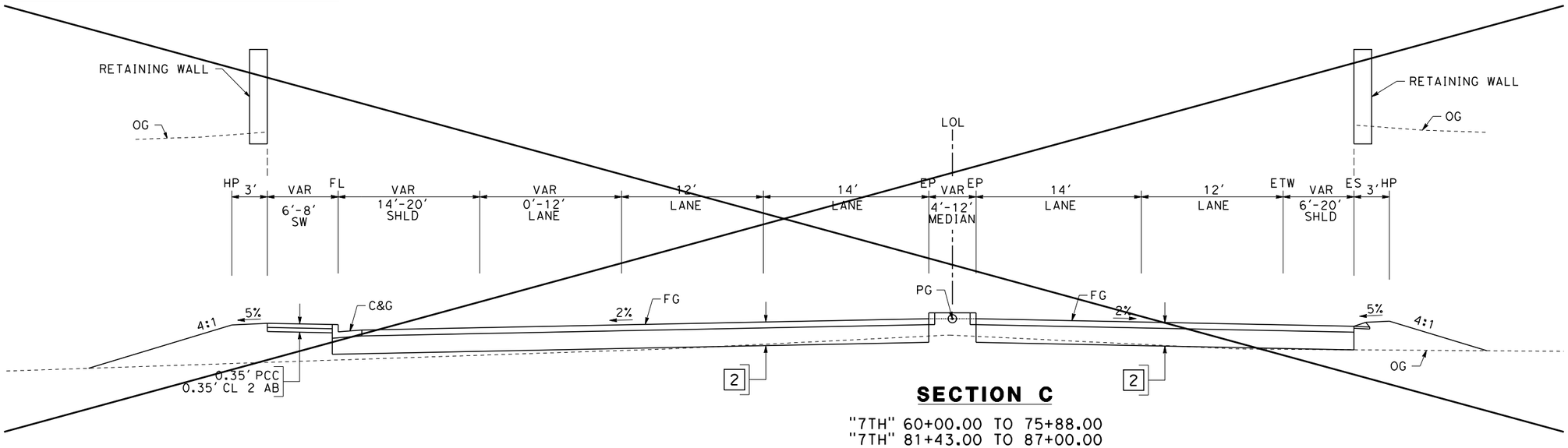
"MCA" 21+00.00 TO 40+89.00 "FRES" 37+40.00 TO 51+00.00
"MCA" 45+79.00 TO 62+00.00 ~~"KRT" 25+50.00 TO 35+53.00~~
*"FRES" 18+00.00 TO 31+30.00 ~~"KRT" 42+58.00 TO 53+50.00~~

* VARIES
4:1 TYPICAL
2:1 MAXIMUM




## SECTION B

"MCA" 13+00.00 TO 21+00.00 "FRES" 51+00.00 TO 54+00.00
"MCA" 62+00.00 TO 73+50.00 ~~"KRT" 21+00.00 TO 25+50.00~~
"FRES" 6+87.15 TO 18+00.00 ~~"KRT" 53+50.00 TO 56+00.00~~




## SECTION C

"7TH" 60+00.00 TO 75+88.00
"7TH" 81+43.00 TO 87+00.00

## STRUCTURAL SECTIONS

TYPICAL ROADWAY

1 — 0.30' HMA (TYPE A)
1.40' CL 2 AB

2 — 0.50' HMA (TYPE A)
1.50' CL 2 AB

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 09/24/14

PROPOSED PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY / GRADE SEPARATION
TYPICAL CROSS SECTIONS

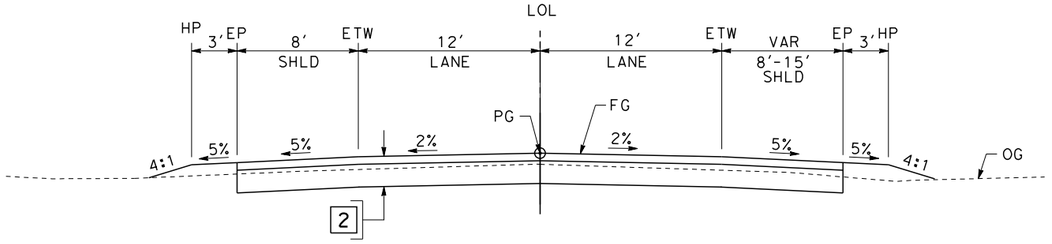
CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1133
SCALE NO SCALE
SHEET NO. 66 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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CLI60413

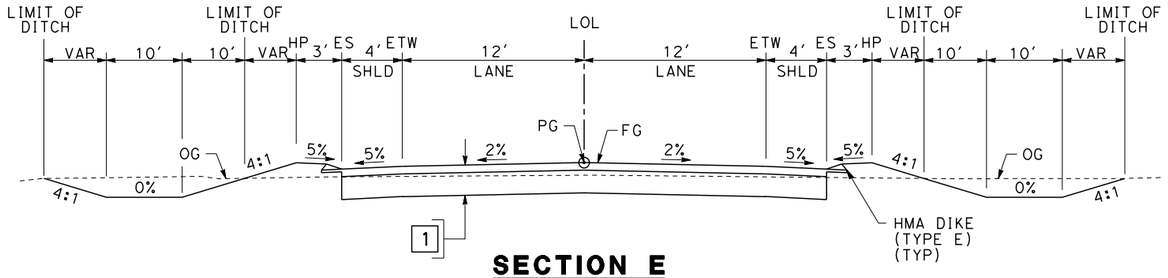
NOTES:

1. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
2. PAVEMENT SECTIONS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. EXACT DIMENSIONS AND MATERIAL OF THE PAVEMENT SECTION TO BE CONFIRMED.
3. PEDESTRIAN FACILITIES WILL BE DESIGNED TO COMPLY WITH ADA REQUIREMENTS.



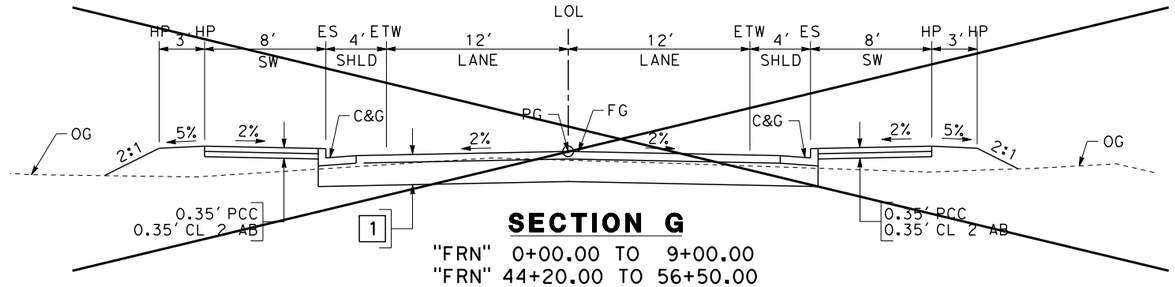

## SECTION D

"SFW1" 7+50.00 TO 226+11.73
"SFW2" 0+11.73 TO 21+56.16



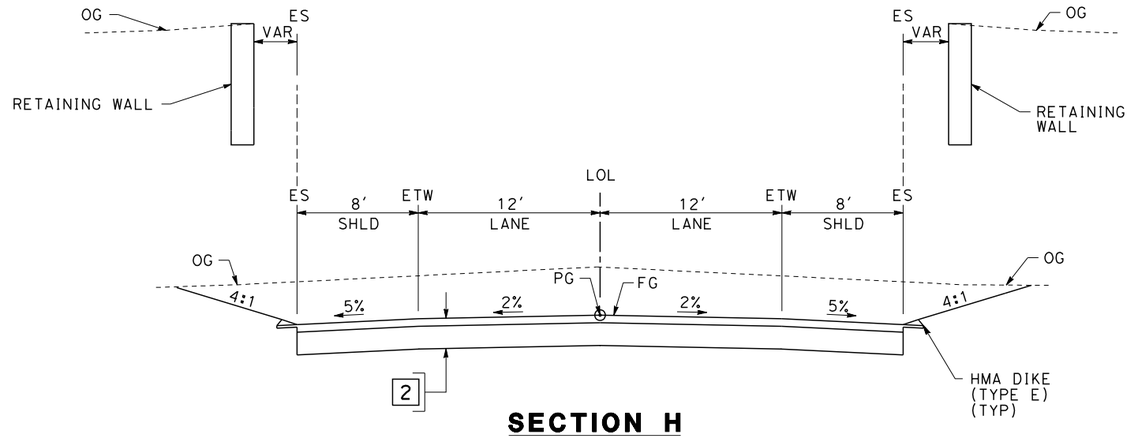

## SECTION E

"MER" 3+00.00 TO 13+18.25
"MER" 20+53.25 TO 33+15.00
"POP" 12+00.00 TO 24+67.50
"POP" 31+92.50 TO 42+00.00
"FBU" 19+00.00 TO 32+98.75
"FBU" 40+63.75 TO 52+00.00



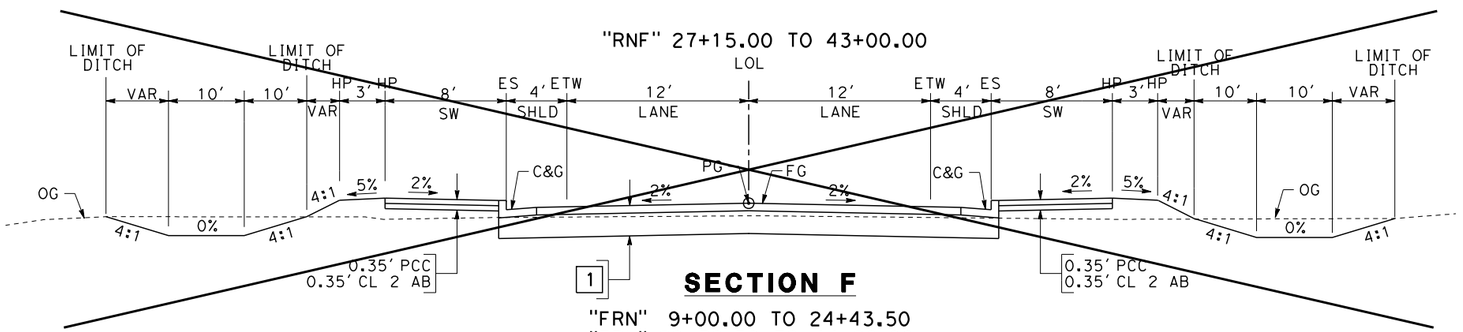

## SECTION G

"FRN" 0+00.00 TO 9+00.00
"FRN" 44+20.00 TO 56+50.00



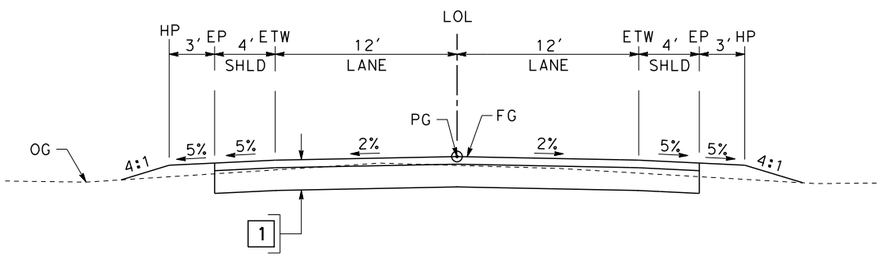

## SECTION H

"KBA" 6+91.66 TO 28+00.00




## SECTION F

"FRN" 9+00.00 TO 24+43.50
"FRN" 29+38.50 TO 44+20.00




## SECTION I

| | | | |
|---|---|---|---|
| "MER" | 0+12.00 TO 3+00.00 | "FBU" | 11+00.00 TO 19+00.00 |
| "MER" | 33+15.00 TO 43+90.95 | "FBU" | 52+00.00 TO 58+00.00 |
| "POP" | 9+50.00 TO 12+00.00 | "MCAC" | 20+00.00 TO 26+78.87 |
| "POP" | 42+00.00 TO 45+00.00 | "CHY" | 7+50.00 TO 17+50.00 |
| "POF" | 0+00.00 TO 8+80.32 | "AMCC" | 0+00.00 TO 5+00.00 |
| ~~"KRF"~~ | ~~0+00.00 TO 9+90.85~~ | ~~"FNO"~~ | ~~10+00.00 TO 16+59.21~~ |
| ~~"FBA"~~ | ~~10+00.00 TO 15+50.00~~ | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY A. CANNON
DRAWN BY E. SUDHAUSEN
CHECKED BY J. MONG
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
ROADWAY / GRADE SEPARATION
TYPICAL CROSS SECTIONS

CONTRACT NO. HSR 06-0003
DRAWING NO. CV-T1131
SCALE NO SCALE
SHEET NO. 67 OF 67

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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# CALIFORNIA HIGH-SPEED TRAIN

## Roadway Structure Plans




# RECORD SET 15% DESIGN SUBMISSION

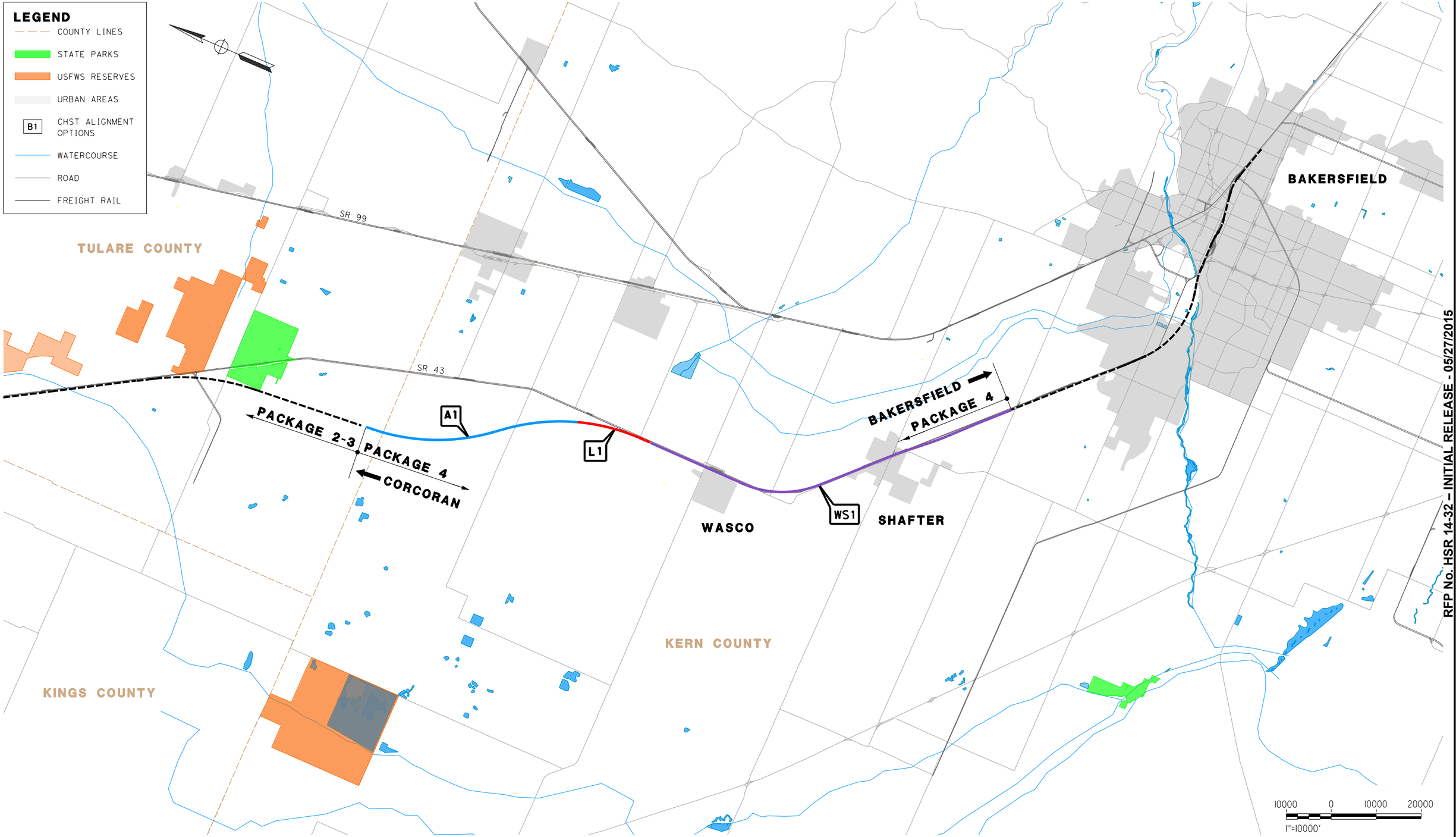
# Fresno to Bakersfield

## Overhead Planning Studies

May 2014

CALIFORNIA High-Speed Rail Authority

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015




RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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paul.tonkin

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY K. SEYMOUR
DRAWN BY P. TONKIN
CHECKED BY S. BURGES
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
PACKAGE 4
ALIGNMENT
LOCATION MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. TT-B1100
SCALE AS SHOWN
SHEET NO. 1 OF 4

## GENERAL SHEETS

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| TT-B1100 | | ALIGNMENT - LOCATION MAP | 1 OF 4 |
| GE-A0032 | | ROADWAY STRUCTURES - INDEX OF SHEETS - SHEET 1 OF 1 | 2 OF 4 |
| CB0010 | | GENERAL - ABBREVIATIONS & LEGENDS - SHEET 1 OF 2 | 3 OF 4 |
| CB0011 | | GENERAL - ABBREVIATIONS & LEGENDS - SHEET 2 OF 2 | 4 OF 4 |

## ALIGNMENT A1 - ALLENSWORTH BYPASS SUBSECTION

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| SB0100 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY ST-K1100 | - |
| ST-K1100 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - OVERHEAD PLANNING STUDY - KEY MAP | 1 OF 5 |
| ~~ST2501~~ | | ~~ALLENSWORTH BYPASS SUBSECTION~~ | ~~2 OF 5~~ |
| ST2511 | SS | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY ST-K1101 | - |
| ST-K1101 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - OVERHEAD PLANNING STUDY - GARCES HWY | 3 OF 5 |
| ST2521 | | ALLENSWORTH BYPASS SUBSECTION | 4 OF 5 |
| ST2531 | | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY ST-K1102 | - |
| ST-K1102 | | ALLENSWORTH BYPASS SUBSECTION - ALIGNMENT A1 - OVERHEAD PLANNING STUDY - PETERSON RD | 5 OF 5 |

## ALIGNMENT WS1 - THROUGH WASCO-SHAFTER SUBSECTION

| DRAWING No | REV | DRAWING DESCRIPTION | SHEET No |
|---|---|---|---|
| SB0170 | | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY ST-K1150 | - |
| ST-K1150 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - KEY MAP | 1 OF 14 |
| ST2900 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - McCOMBS AVE | 2 OF 14 |
| ST2911 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - MERCED AVE | 3 OF 14 |
| ST2912 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - MERCED AVE | 4 OF 14 |
| ST2913 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - POPLAR AVE | 5 OF 14 |
| ST2914 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - POPLAR AVE | 6 OF 14 |
| ST2915 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - FRESNO AVE | 7 OF 14 |
| ST2926 | | THIS SHEET IS SUPERSEDED AND NOT IN THIS PACKAGE - REPLACED BY ST-K1151 | - |
| ST-K1151 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - BURBANK ST | 8 OF 14 |
| ST2927 | | THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - BURBANK ST | 9 OF 14 |
| ~~ST2917~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - 7TH STANDARD RD~~ | ~~10 OF 14~~ |
| ~~ST2918~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - TYPICAL SECTIONS - 7TH STANDARD RD~~ | ~~11 OF 14~~ |
| ~~ST2921~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - KRATZMEYER RD~~ | ~~12 OF 14~~ |
| ~~ST2922~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - KRATZMEYER RD~~ | ~~13 OF 14~~ |
| ~~ST2925~~ | | ~~THROUGH WASCO-SHAFTER SUBSECTION - ALIGNMENT WS1 - OVERHEAD PLANNING STUDY - RENFRO RD~~ | ~~14 OF 14~~ |

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| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY P. TONKIN
DRAWN BY P. TONKIN
CHECKED BY K. SEYMOUR
IN CHARGE S. BURGES
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
PACKAGE 4
ROADWAY STRUCTURES
INDEX OF SHEETS
SHEET 1 OF 1

CONTRACT NO. HSR 06-0003
DRAWING NO. GE-A0032
SCALE NO SCALE
SHEET NO. 2 OF 4

## A

| | |
|---|---|
| AB | AGGREGATE BASE |
| ABBC | ASBESTOS BONDED BITUMINOUS COATED |
| ABM | AIR-BLOWN MORTAR |
| ABN | ABANDON |
| ABUT | ABUTMENT |
| AC | ASPHALT CONCRETE |
| ACB | ASPHALT CONCRETE BASE |
| ACP | ASBESTOS CEMENT PIPE |
| ADL | ADDED DEAD LOAD |
| ADJ | ADJUST |
| AFES | ALTERNATIVE FLARED END SECTION |
| AHD | AHEAD |
| ALT | ALTERNATE |
| AM | TIME FROM MIDNIGHT TO NOON |
| AP | ALTERNATIVE PIPE |
| APC | ALTERNATIVE PIPE CULVERT |
| APPROX | APPROXIMATE |
| APU | ALTERNATIVE PIPE UNDERDRAIN |
| ARS | ACCELERATION RESPONSE SPECTRUM |
| AR | ACCESS RESTRICTION |
| AS | AGGREGATE SUBBASE |
| ASRP | ALUMINUM SPIRAL RIB PIPE |
| ASSY | ASSEMBLY |
| ATPB | ASPHALT TREATED PERMEABLE BASE |
| ATPM | ASPHALT TREATED PERMEABLE MATERIAL |
| AVE | AVENUE |
| AVG | AVERAGE |
| @ | AT |

## B

| | |
|---|---|
| BAGR | BRIDGE APPROACH GUARD RAILING |
| BB | BEGINNING OF BRIDGE |
| BC | BEGIN HORIZONTAL CURVE |
| BCC | BALANCED CANTILEVER CONSTRUCTION |
| BCR | BEGIN CURB RETURN |
| BEG | BEGIN |
| BIT CTD | BITUMINOUS COATED |
| BK | BACK |
| BKF | BACKFILL |
| BLDG | BUILDING |
| BLM | BRIDGE-LOG MILE |
| BLVD | BOULEVARD |
| BM | BENCH MARK |
| BND | BOUND |
| BNSF | BURLINGTON NORTH & SANTA FE |
| BOT | BOTTOM |
| BR | BRIDGE |
| BRG | BEARING |
| BTU | BRITISH THERMAL UNIT |
| BVC | BEGIN VERTICAL CURVE |
| BW | BARBED WIRE |

## C

| | |
|---|---|
| CAA | CABLE ANCHOR ASSEMBLY |
| CAP | CORRUGATED ALUMINUM PIPE |
| CAPA | CORRUGATED ALUMINUM PIPE ARCH |
| CAS | CONSTRUCTION AREA SIGN |
| CB | CONCRETE BARRIER |
| CBW | CONCRETE BLOCK WALL |
| C-C | CENTER TO CENTER |

## C CONTINUED

| | |
|---|---|
| CHSRA | CALIFORNIA HIGH SPEED RAIL AUTHORITY |
| CHST | CALIFORNIA HIGH SPEED TRAIN |
| CHSR | CALIFORNIA HIGH SPEED RAIL |
| CG | CENTER OF GRAVITY |
| CHNL | CHANNEL |
| CI | CAST IRON |
| CIDH | CAST-IN-DRILLED-HOLE |
| CIP,C-I-P | CAST-IN-PLACE, CAST IRON PIPE |
| CIPCP | CAST IN PLACE CONCRETE PIPE |
| CISS | CAST-IN-STEEL-SHELL |
| CJP | COMPLETE JOINT PENETRATION |
| CL | CENTERLINE, CLASS |
| CL2 | CLASS 2 |
| CL-6 | CHAIN LINK FENCE (6 FT) |
| CLR | CLEAR, CLEARANCE |
| CM | CORRUGATED METAL |
| CMP | CORRUGATED METAL PIPE |
| CO | COUNTY |
| COL | COLUMN |
| CONC | CONCRETE |
| COND | CONDUIT |
| CONN | CONNECTOR |
| CONST | CONSTRUCT, CONSTRUCTION |
| CONT | CONTINUOUS |
| COORD | COORDINATE |
| CP | CLEARANCE POINT |
| CR | CREEK |
| CRCP | CONTINUOUS REINFORCED CONCRETE PAVEMENT |
| CRSP | CONCRETED ROCK SLOPE PROTECTION |
| CS | CURVE TO SPIRAL |
| CSP | CORRUGATED STEEL PIPE |
| CSPA | CORRUGATED STEEL PIPE ARCH |
| CTB | CEMENT TREATED BASE |
| CTPB | CEMENT TREATED PERMEABLE BASE |
| CTPM | CEMENT TREATED PERMEABLE MATERIAL |
| CTRS | CENTERS |
| CVFPB | CENTRAL VALLEY FLOOD PROTECTION BOARD |
| CULV | CULVERT |
| ℄ | CENTERLINE |

## D

| | |
|---|---|
| D | DEPTH |
| DD | DOWNDRAIN, DIRECTIVE DRILLING |
| DBL | DOUBLE |
| DEG | DEGREE |
| DEL | DELINEATOR |
| DET | DETAIL, DETOUR |
| DF | DOUGLAS FIR |
| DI | DRAINAGE INLET, DROP INLET |
| DIA | DIAMETER |
| DIAPH | DIAPHRAGM |
| DIST | DISTANCE, DISTRICT |
| DMBB | DOUBLE METAL BEAM BARRIER |
| DR | DRIVE |
| DTBB | DOUBLE THRIE BEAM BARRIER |
| DWY | DRIVEWAY |

## E

| | |
|---|---|
| E | EAST, EASTING |
| EA | ACTUAL SUPERELEVATION |
| EU | UNBALANCED SUPERELEVATION |

## E CONTINUED

| | |
|---|---|
| EASE | EASEMENT |
| EB | END OF BRIDGE, EASTBOUND |
| EC | END HORIZONTAL CURVE |
| ECR | END CURB RETURN |
| ED | EDGE DRAIN |
| EDC | EDGE DRAIN CLEANOUT |
| EDO | EDGE DRAIN OUTLET |
| EDV | EDGE DRAIN VENT |
| ELEC | ELECTROLIER |
| ELECT | ELECTRIC |
| ELEV | ELEVATION |
| EMB | EMBANKMENT |
| ENGR | ENGINEER |
| EOD | EDGE OF DECK |
| EP | EDGE OF PAVEMENT |
| EQ | EQUATION, EQUAL |
| ES | EDGE OF SHOULDER |
| ETW | EDGE OF TRAVELED WAY |
| EVC | END VERTICAL CURVE |
| EW | ENDWALL |
| EXC | EXCAVATION |
| EXIST, EX. | EXISTING |
| EXP | EXPANSION |
| EXP JT | EXPANSION JOINT |
| EXWY | EXPRESSWAY |
| EXT | EXTERIOR |

## F

| | |
|---|---|
| F & C | FRAME AND COVER |
| F & G | FRAME AND GRATE |
| FB | FLOOR BEAM |
| F-B | FRESNO TO BAKERSFIELD |
| FDN | FOUNDATION |
| FEBT | FACING EASTBOUND TRAFFIC |
| FES | FLARED END SECTION |
| FF | FILTER FABRIC |
| FG | FINISHED GRADE |
| FH | FIRE HYDRANT |
| FIG | FIGURE |
| FL | FLOW LINE |
| FNBT | FACING NORTHBOUND TRAFFIC |
| FOC | FACE OF CONCRETE |
| FR RD | FRONTAGE ROAD |
| FS | FAR SIDE, FINISHED SURFACE |
| FSBT | FACING SOUTHBOUND TRAFFIC |
| FT | FOOT, FEET |
| FTG | FOOTING |
| FWBT | FACING WESTBOUND TRAFFIC |
| FWY | FREEWAY |
| FPLM | FULL SPAN PRECAST LAUNCHING METHOD |

## G

| | |
|---|---|
| G | ACCELERATION DUE TO GRAVITY |
| GA | GAGE |
| GALV | GALVANIZED |
| GP | GRADING PLANE |
| GR | GUARD RAILING |
| GSP | GALVANIZED STEEL PIPE |
| GTR | GUTTER |

## H

| | |
|---|---|
| H | HEIGHT |
| HR | HOUR |
| HD | HORIZONTAL DRAIN |
| HDWL | HEADWALL |
| HEX HD | HEXAGONAL HEAD |
| HMA | HOT MIXED ASPHALT |
| HORIZ | HORIZONTAL |
| HP | HINGE POINT, HORSEPOWER |
| HPS | HIGH PERFORMANCE STEEL |
| HS | HIGH STRENGTH |
| HST | HIGH SPEED TRAIN |
| HSR | HIGH SPEED RAIL |
| HW | HEADWALL, HIGH WATER |
| HWM | HIGH WATER MARK |
| HWY | HIGHWAY |

## I

| | |
|---|---|
| IB | IMPORTED BORROW |
| ID | INSIDE DIAMETER |
| IF | INSIDE FACE |
| IN | INCH, INCHES |
| INT | INTERIOR |
| INV | INVERT |
| IRR | IRRIGATION |

## J

| | |
|---|---|
| JCT | JUNCTION |
| JP | JOINT POLE |
| JPCP | JOINTED PLAIN CONCRETE PAVEMENT |
| JS | JUNCTION STRUCTURE |
| JT | JOINT |

## K

| | |
|---|---|
| K | DISTANCE TO ACHIEVE 1% GRADE CHANGE |

## L

| | |
|---|---|
| L | LENGTH |
| LAT | LATITUDE |
| LCB | LEAN CONCRETE BASE |
| LN | LANE |
| LOC | LOCATION |
| LOL | LAYOUT LINE |
| LONG | LONGITUDE |
| LONGIT | LONGITUDINAL |
| LS | LENGTH OF SPIRAL |
| LC | LENGTH OF CURVE |
| LT | LEFT |

## M

| | |
|---|---|
| MAINT | MAINTENANCE |
| MAX | MAXIMUM |
| MB | METAL BEAM |
| MBB | METAL BEAM BARRIER |
| MBGR | METAL BEAM GUARD RAILING |
| MED | MEDIAN |
| M-F | MERCED TO FRESNO |
| MH | MANHOLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MISC I & S | MISCELLANEOUS IRON AND STEEL |
| MKR | MARKER |
| M/L | MAIN LINE (RAILWAY) |

## M CONTINUED

| | |
|---|---|
| MOD | MODIFIED, MODIFY |
| MON | MONUMENT |
| MP | METAL PLATE |
| MPGR | METAL PLATE GUARD RAILING |
| MPH | MILES PER HOUR |
| MR | MOVEMENT RATING |
| MSE | MECHANICALLY STABILIZED EARTH |
| MTL | MATERIAL |
| MSS | MOVING SCAFFOLDING SYSTEM |

## N

| | |
|---|---|
| N | NORTH, NORTHING |
| NB | NORTHBOUND |
| NO. | NUMBER (MUST HAVE PERIOD) |
| NOS. | NUMBERS (MUST HAVE PERIOD) |
| NPS | NOMINAL PIPE SIZE |
| NS | NEAR SIDE |
| NTS | NOT TO SCALE |
| N/A | NOT APPLICABLE |

## O

| | |
|---|---|
| OBLR | OBLITERATE |
| OC | OVERCROSSING |
| OCS | OVERHEAD CONTACT SYSTEM |
| OD | OUTSIDE DIAMETER |
| OF | OUTSIDE FACE |
| OG | ORIGINAL GROUND |
| OGAC | OPEN GRADED ASPHALT CONCRETE |
| OH | OVERHEAD |
| O-O | OUT TO OUT |
| OPP | OPPOSITE |

## P

| | |
|---|---|
| P | PAGE |
| PAP | PERFORATED ALUMINUM PIPE |
| PB | PULL BOX |
| PC | POINT OF CURVATURE, PRECAST |
| PCC | POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE |
| PCP | PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE |
| PCVC | POINT OF COMPOUND VERTICAL CURVE |
| PED | PEDESTRIAN |
| PED OC | PEDESTRIAN OVERCROSSING |
| PED UC | PEDESTRIAN UNDERCROSSING |
| PERM MTL | PERMEABLE MATERIAL |
| PG | PROFILE GRADE |
| PI | POINT OF INTERSECTION |
| PJP | PARTIAL JOINT PENETRATION |
| ℄,PL | PLATE |
| P/L | PROPERTY LINE |
| PM | POST MILE, TIME FROM NOON TO MIDNIGHT |
| PN | PAVING NOTCH |
| POB | POINT OF BEGINNING |
| POC | POINT OF HORIZONTAL CURVE |
| POE | POINT OF ENDING |
| POT | POINT OF TANGENT |
| POVC | POINT OF VERTICAL CURVE |
| PP | PIPE PILE, PLASTIC PIPE, POWER POLE |
| PPL | PREFORMED PERMEABLE LINER |
| PPP | PERFORATED PLASTIC PIPE |
| PRC | POINT OF REVERSE CURVE |

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY K. SEYMOUR
DRAWN BY P. TONKIN
CHECKED BY D. HUNT
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD

GENERAL
ABBREVIATIONS AND LEGENDS
SHEET 1 OF 2

CONTRACT NO. HSR 06-0003
DRAWING NO. CB0010
SCALE NO SCALE
SHEET NO. 3 OF 4

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## P CONTINUED

| | |
|---|---|
| PRF | PAVEMENT REINFORCING FABRIC |
| PRVC | POINT OF REVERSE VERTICAL CURVE |
| PS&E | PLANS, SPECIFICATIONS AND ESTIMATES |
| PS, P/S | PRESTRESSED, PARALLEL STATION |
| PSP | PERFORATED STEEL PIPE |
| PT | POINT OF TANGENCY |
| PVC | POLYVINYL CHLORIDE |
| PVI | POINT OF VERTICAL INTERSECTION |
| PVMT | PAVEMENT |
| PVP | MAINTENANCE VEHICLE PULLOUT |

## Q

| | |
|---|---|
| QTY | QUANTITY |

## R

| | |
|---|---|
| R | RADIUS |
| R & D | REMOVE AND DISPOSE |
| R & S | REMOVE AND SALVAGE |
| R/C | RATE OF CHANGE |
| RCA | REINFORCED CONCRETE ARCH |
| RCB | REINFORCED CONCRETE BOX |
| RCP | REINFORCED CONCRETE PIPE |
| RCPA | REINFORCED CONCRETE PIPE ARCH |
| RD | ROAD |
| REINF | REINFORCED, REINFORCEMENT, REINFORCING |
| REL | RELOCATE |
| REPL | REPLACEMENT |
| RET | RETAINING |
| REV | REVISED |
| RDWY | ROADWAY |
| RM | ROAD-MIXED |
| RP | RADIUS POINT, REFERENCE POINT |
| RR | RAILROAD |
| RSP | ROCK SLOPE PROTECTION |
| RT | RIGHT |
| RTE | ROUTE |
| RW | REDWOOD, RETAINING WALL |
| R/W, ROW | RIGHT OF WAY |
| RWY | RAILWAY |

## S

| | |
|---|---|
| S | SOUTH, SUPPLEMENT |
| SAE | STRUCTURE APPROACH EMBANKMENT |
| SALV | SALVAGE |
| SAPP | STRUCTURAL ALUMINUM PLATE PIPE |
| SB | SOUTHBOUND |
| SC | SPIRAL TO CURVE |
| SCSP | SLOTTED CORRUGATED STEEL PIPE |
| SD | STORM DRAIN |
| SEC | SECOND |
| SECT | SECTION |
| SEP | SEPARATION |
| SG | SUBGRADE |
| SHLD | SHOULDER |
| SHT | SHEET |
| SIM | SIMILAR |
| S | STATION LINE |
| SM | SELECTED MATERIAL |
| SPEC | SPECIAL, SPECIFICATIONS |
| SPP | SLOTTED PLASTIC PIPE |
| SS | SLOPE STAKE, SPIRAL TO SPIRAL |

## S CONTINUED

| | |
|---|---|
| SSBM | STRAP AND SADDLE BRACKET METHOD |
| SSD | STRUCTURAL SECTION DRAIN |
| SSPA | STRUCTURAL STEEL PLATE ARCH |
| SSPP | STRUCTURAL STEEL PLATE PIPE |
| SSPPA | STRUCTURAL STEEL PLATE PIPE ARCH |
| SSRP | STEEL SPIRAL RIB PIPE |
| SR | STATE ROUTE |
| ST | STREET, SPIRAL TO TANGENT |
| STA | STATION |
| STBB | SINGLE THRIE BEAM BARRIER |
| STD | STANDARD |
| STR | STRUCTURE |
| SRS | STAND ALONE RADIO SITE |
| SURF | SURFACING |
| SW | SIDEWALK, SOUND WALL |
| SWR | SEWER |
| SWS | SWITCHING STATION |
| SYM | SYMMETRICAL |
| S4S | SURFACE 4 SIDES |
| SJVR | SAN JOAQUIN VALLEY RAILROAD |

## T

| | |
|---|---|
| T | SEMI-TANGENT |
| TAB | TABLET |
| TAN | TANGENT |
| TBB | THRIE BEAM BARRIER |
| TBR | TIMBER |
| TC | TOP OF CURB, TANGENT TO CURVE |
| TCB | TRAFFIC CONTROL BOX |
| TEL | TELEPHONE |
| TEMP | TEMPORARY |
| TG | TOP OF GRADE |
| TOT | TOTAL |
| TM | TECHNICAL MEMORANDUM |
| TP | TELEPHONE POLE |
| TPB | TREATED PERMEABLE BASE |
| TPM | TREATED PERMEABLE MATERIAL |
| TPSS | TRACTION POWER SUPPLY STATION |
| TRANS | TRANSITION, TRANSVERSE |
| TS | TRAFFIC SIGNAL, TUBULAR STEEL, TANGET TO SPIRAL |
| TYP | TYPICAL |
| TOR | TOP OF RAIL |

## U

| | |
|---|---|
| UC | UNDERCROSSING |
| UD | UNDERDRAIN |
| UON | UNLESS OTHERWISE NOTED |
| UP | UNDERPASS |
| UPRR | UNION PACIFIC RAILROAD |
| USFWS | UNITED STATES FISH AND WILDLIFE SERVICE |

## V

| | |
|---|---|
| V | VALVE, DESIGN SPEED |
| VAR | VARIABLE |
| VC | VERTICAL CURVE |
| VCP | VITRIFIED CLAY PIPE |
| VERT | VERTICAL |
| VIA | VIADUCT |
| VOL | VOLUME |

## W

| | |
|---|---|
| W | WEST, WIDTH |
| WB | WESTBOUND |
| WH | WEEP HOLE |
| WM | WIRE MESH |
| WS | WATER SURFACE |
| WSP | WELDED STEEL PIPE |
| WT | WEIGHT |
| WV | WATER VALVE |
| WW | WINGWALL |
| WWLOL | WINGWALL LAYOUT LINE |
| W/ | WITH |

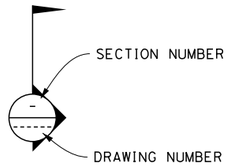
## X

| | |
|---|---|
| X SEC | CROSS SECTION |
| XING | CROSSING |

## Y

| | |
|---|---|
| YR | YEAR |
| YRS | YEARS |

## LEGEND




- PROPOSED ELECTRICITY LINE
- EXISTING ELECTRICITY LINE
- EXISTING OVERHEAD ELECTRICITY LINE
- PROPOSED OVERHEAD ELECTRICTY LINE
- PROPOSED HST RIGHT OF WAY
- PROPOSED HST TRACK CENTERLINE
- RETAINING WALL
- TOE OF SLOPE / TOP OF CUT

CONTROL LINE EXAMPLE "A" LINE

255+00 260+00 265+00

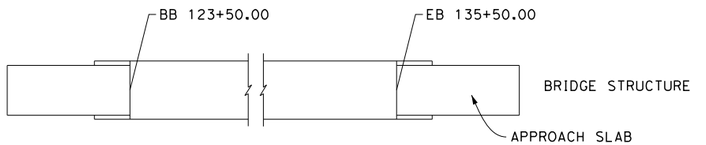
- TRACK (PLAN AND ELEVATION)
- TRACK TO BE REMOVED AND RELOCATED PER BNSF
- REMOVE BASE & SURFACING
- SOUND BARRIER (POTENTIAL)
- DIRECTION OF FLOW
- WATER SURFACE

# GENERAL NOTES

1. TRACK PROFILE IS DESIGNED AS TOP OF THE LOW RAIL. VERTICAL CLEARANCE REQUIREMENTS ARE MEASURED FROM THE TOP OF THE HIGH RAIL ON SUPERELEVATED TRACK. THE CLEARANCE ENVELOPES SHOWN DEMONSTRATE THE MINIMUM CLEARANCE REQUIREMENTS.
2. MINIMUM VERTICAL CLEARANCE REQUIREMENTS TO CANALS AND DITCHES ARE NOT KNOWN. FURTHER CONSULTATION WITH THE WATERCOURSE OWNERS WILL BE REQUIRED TO DETERMINE NECESSARY CLEARANCES.
3. THE FOLLOWING ARE ROADWAY DESIGN STANDARDS AND GUIDELINES:
   A. CALTRANS HIGHWAY DESIGN MANUAL (2012)
   B. AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (2011)
   C. AASHTO ROADSIDE DESIGN GUIDE (2011)
   D. APPLICABLE LOCAL DESIGN STANDARD AND GUIDELINES (I.E., CITY OF FRESNO)
4. THE FEMA FLOODPLAIN BOUNDARIES ARE CALLED OUT AS "LIMIT OF 100YR FEMA FLOODPLAIN". THE LIMITS OF THE MODELED 100 YEAR WATER SURFACE ELEVATIONS (WSE) ARE APPROXIMATE AND ARE MARKED WITH THE NAME OF THE WATERBODY ASSOCIATED WITH THE MODELED FLOODING, E.G. "LIMIT OF POSO CREEK FLOODPLAIN".
5. THE STRUCTURE DESIGN ASSUMES THAT THE DEPTH FROM TOR TO TOP OF DECK IS 2'-6" THROUGHOUT. HOWEVER, WHERE BALLASTED TRACK FORM IS USED, THE HEIGHT FROM TOR TO DECK SHALL BE 2'-9" PLUS AN ALLOWANCE FOR WATERPROOF MEMBRANE, AND PROTECTION LAYER IF REQUIRED. FOR SLAB TRACKFORM, THE HEIGHT FROM TOR TO DECK SHALL BE 2'-6" PLUS AN ALLOWANCE FOR WATERPROOF MEMBRANE AND PROTECTION LAYER IF REQUIRED.
6. WHERE THE VERTICAL ALIGNMENT GRADE IS LESS THAN 0.5% THE UPPER SURFACE OF THE VIADUCT STRUCTURE SHALL BE PROFILED TO GIVE A MINIMUM LONGITUDINAL FALL OF 0.5%. TYPICALLY FOR A SPAN OF 120'-00" ON A 0% GRADE SECTION OF VIADUCT THIS COULD BE ACHIEVED BY MODIFYING THE CROSS SLOPE OF THE GIRDER LINEARLY BETWEEN 0.8% AT MID-SPAN TO 2% AT EACH END.
7. WHEN LATERAL SEPARATION BETWEEN THE CONVENTIONAL RAILROAD AND HST SYSTEM IS LESS THAN 102', A SITE SPECIFIC HAZARD ANALYSIS WILL BE CONDUCTED TO DETERMINE WHAT SPECIFIC COLLISION PROTECTION MEASURES MAY NEED TO BE IMPLEMENTED.
8. RIP-RAP PROTECTION IS REQUIRED FOR EMBANKMENTS WITHIN FEMA SPECIAL FLOOD HAZARD ZONES, IN ACCORDANCE WITH DESIGN CRITERIA.
9. HST ALIGNMENT CONTROL LINE IS DESIGNED AS THE CENTERLINE BETWEEN THE TWO MAINLINE TRACKS.
10. TRACK FORM USED IN TYPICAL SECTIONS IS INDICATIVE.

- DIRECTION OF TRAFFIC
- POINT OF MINIMUM VERTICAL CLEARANCE ROAD CLOSURE (ROADWAYS)
- [1] LINE DATA
- (1) (3) CURVE DATA (ALIGNMENTS) CURVE DATA (STRUCTURES)
- EXISTING HIGH VOLTAGE TOWER FOOTPRINT
- OG / ORIGINAL GROUND




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DRAWN BY P. TONKIN
CHECKED BY D. HUNT
IN CHARGE R. COFFIN
DATE 12/31/13

RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
GENERAL
ABBREVIATIONS AND LEGENDS
SHEET 2 OF 2

CONTRACT NO. HSR 06-0003
DRAWING NO. CB0011
SCALE NO SCALE
SHEET NO. 4 OF 4

paul.tonkin 8/7/2014 10:18:25 AM c:\pwworking\hmm\external\paul.tonkin01-arup.com\d0251187\FB-CB-0011.dgn




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DESIGNED BY E. MORAN
DRAWN BY D. BARNHART
CHECKED BY L. SMITH
IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

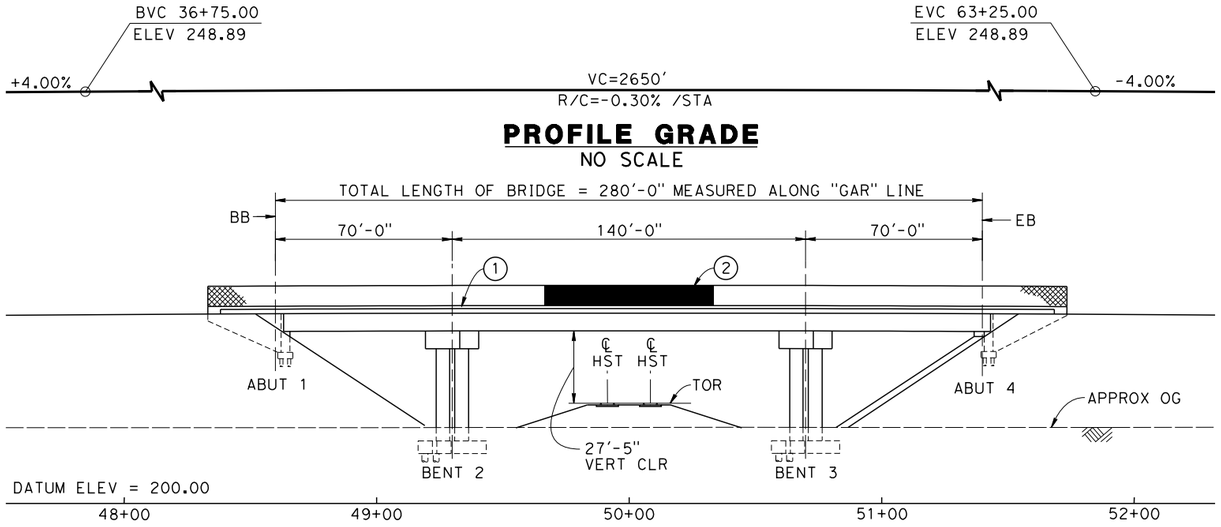
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California High-Speed Train

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

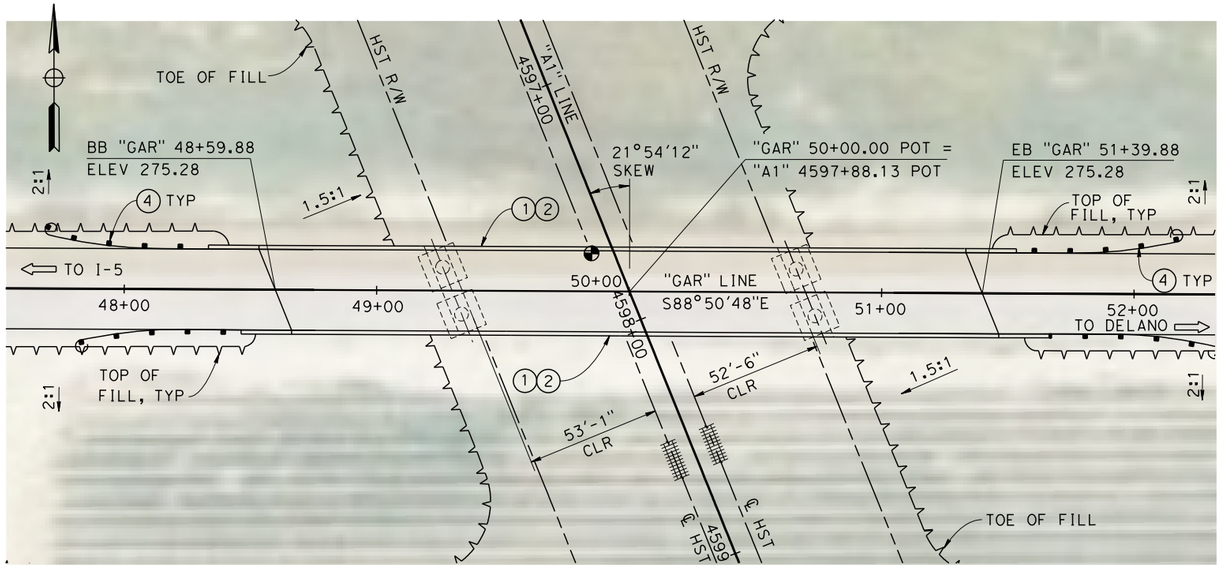
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
OVERHEAD PLANNING STUDY
KEY MAP

CONTRACT NO. HSR 06-0003
DRAWING NO. ST-K1100
SCALE AS SHOWN
SHEET NO. 1 OF 5

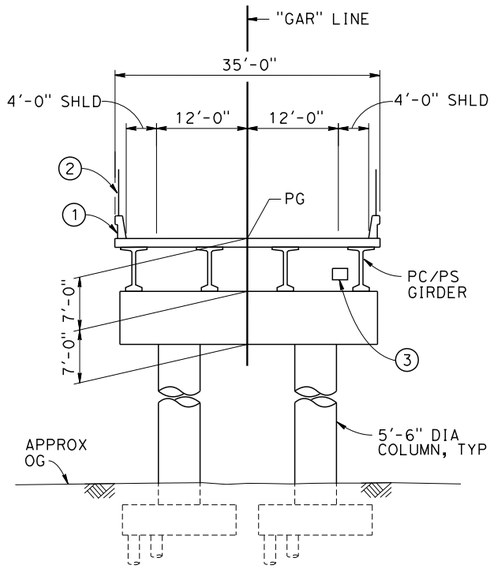



## PROFILE GRADE
NO SCALE

## ELEVATION
SCALE:1"=30'




## PLAN
SCALE:1"=30'




## TYPICAL SECTION
SCALE:1"=10'

NOTES:
1. ALL PILES NOT SHOWN
2. FOR MINIMUM VERTICAL CLEARANCES, HORIZONTAL CURVE DATA, AND DETAILS NOT SHOWN, SEE ROADWAY PLANS.

LEGEND:
1. CONCRETE BARRIER WITH AR FENCE
2. AR FENCE WITH SOLID PLATE OVER HST
3. FUTURE UTILITY ENCASEMENT OPENING
4. MBGR

10 0 10 20
SCALE: 1"=10'

30 0 30 60
SCALE: 1"=30'

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IN CHARGE R. COFFIN
DATE 09/26/14

**PROPOSED PRELIMINARY DESIGN**

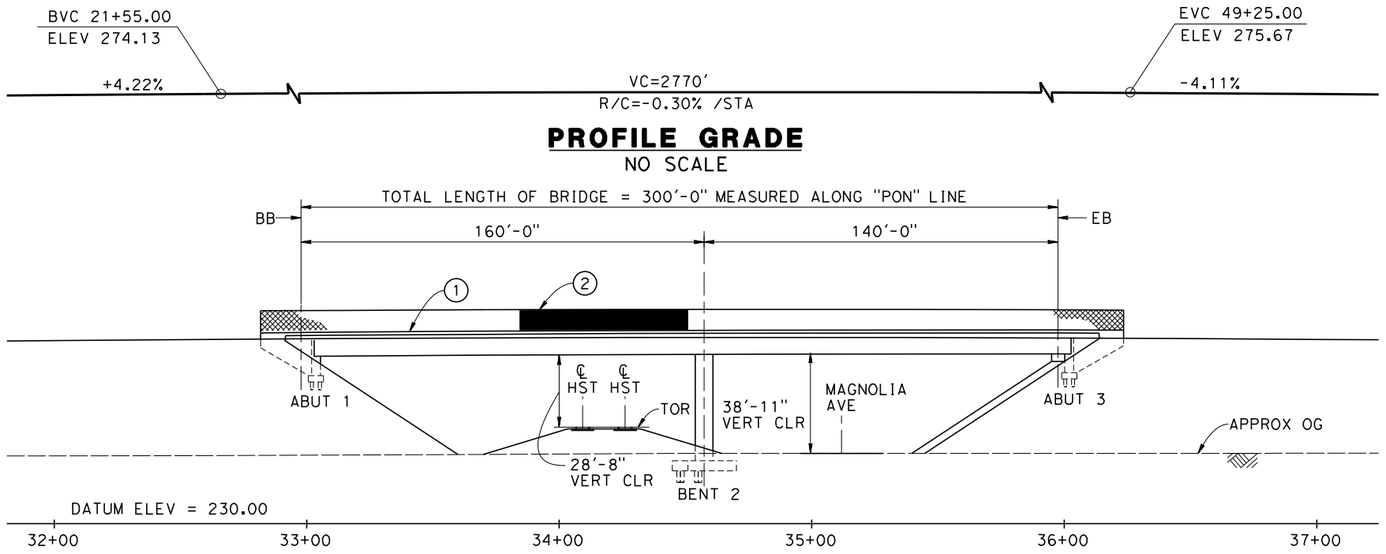
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URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

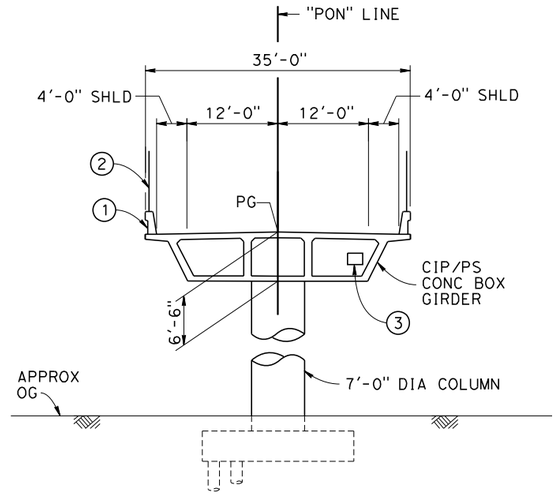
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
OVERHEAD PLANNING STUDY
GARCES HWY

CONTRACT NO. HSR 06-0003
DRAWING NO. ST-K1101
SCALE AS SHOWN
SHEET NO. 3 OF 5

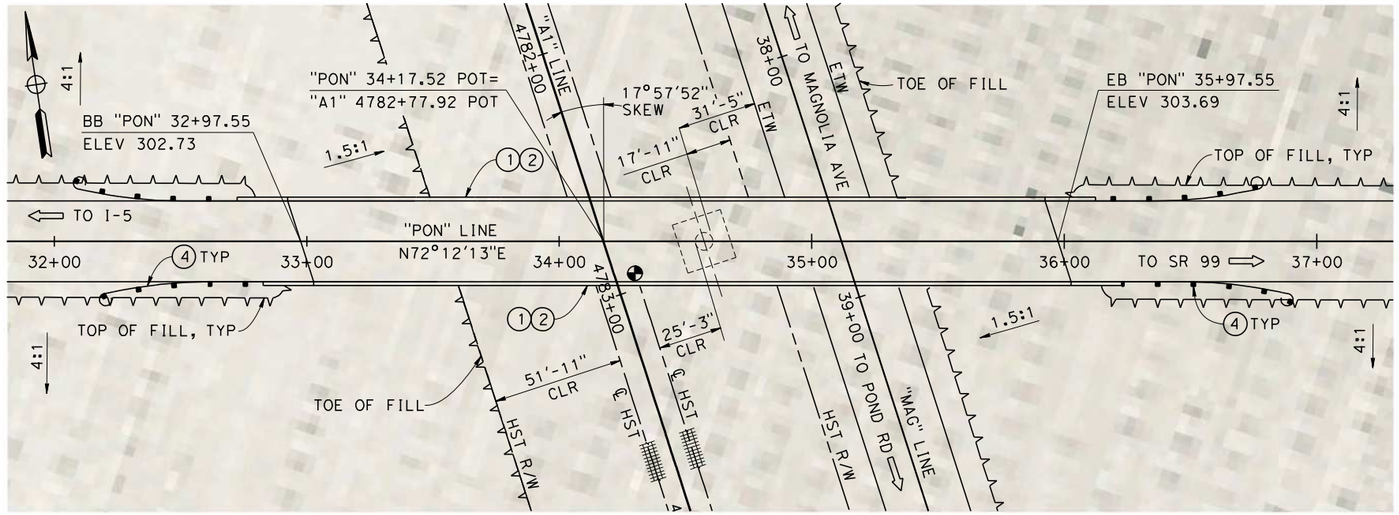



## PROFILE GRADE
NO SCALE

## ELEVATION
SCALE:1"=30'




## TYPICAL SECTION
SCALE:1"=10'




## PLAN
SCALE:1"=30'

NOTES:
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LEGEND:
1. CONCRETE BARRIER WITH AR FENCE
2. AR FENCE WITH SOLID PLATE OVER HST
3. FUTURE UTILITY ENCASEMENT OPENING
4. MBGR

10 0 10 20 — SCALE: 1"=10'

30 0 30 60 — SCALE: 1"=30'

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CALIFORNIA HIGH-SPEED TRAIN

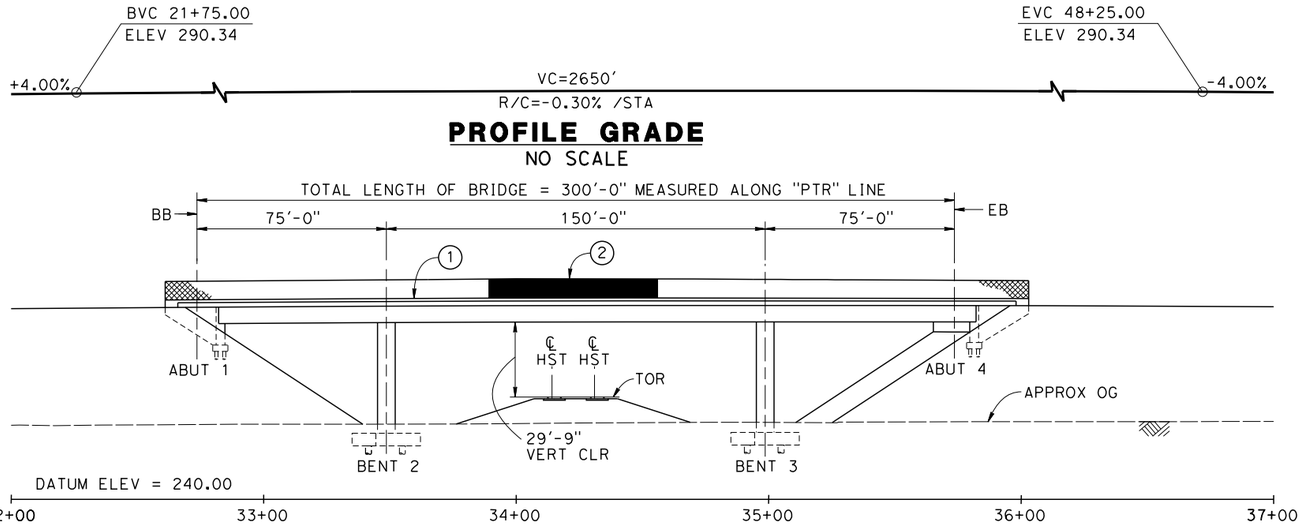
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
OVERHEAD PLANNING STUDY
POND RD

CONTRACT NO. HSR 06-0003
DRAWING NO. ST2521
SCALE AS SHOWN
SHEET NO. 4 OF 5

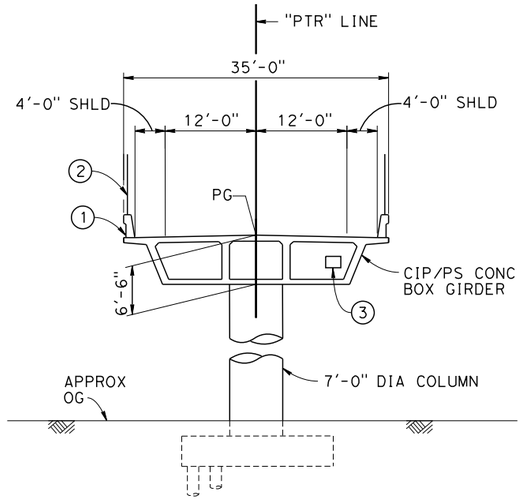
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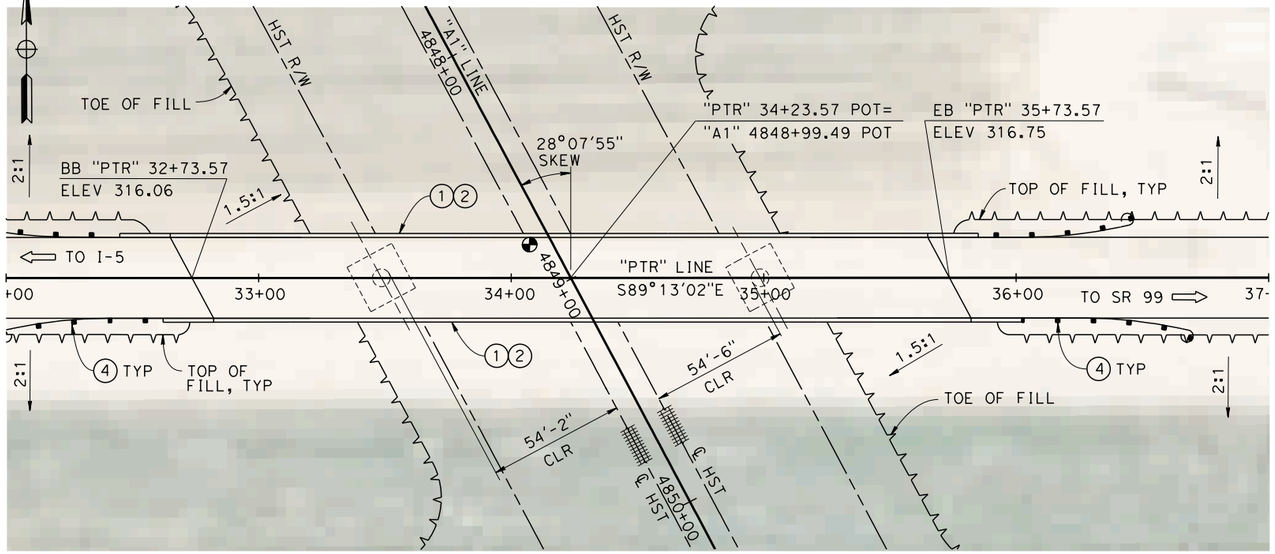



## PROFILE GRADE
NO SCALE

## ELEVATION
SCALE:1"=30'




## TYPICAL SECTION
SCALE:1"=10'




## PLAN
SCALE:1"=30'

NOTES:
1. ALL PILES NOT SHOWN
2. FOR MINIMUM VERTICAL CLEARANCES, HORIZONTAL CURVE DATA, AND DETAILS NOT SHOWN, SEE ROADWAY PLANS.

LEGEND:
1. CONCRETE BARRIER WITH AR FENCE
2. AR FENCE WITH SOLID PLATE OVER HST
3. FUTURE UTILITY ENCASEMENT OPENING
4. MBGR

10 0 10 20
SCALE: 1"=10'

30 0 30 60
SCALE: 1"=30'

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DRAWN BY D. BARNHART
CHECKED BY L. SMITH
IN CHARGE R. COFFIN
DATE 09/26/14

**PROPOSED PRELIMINARY DESIGN**

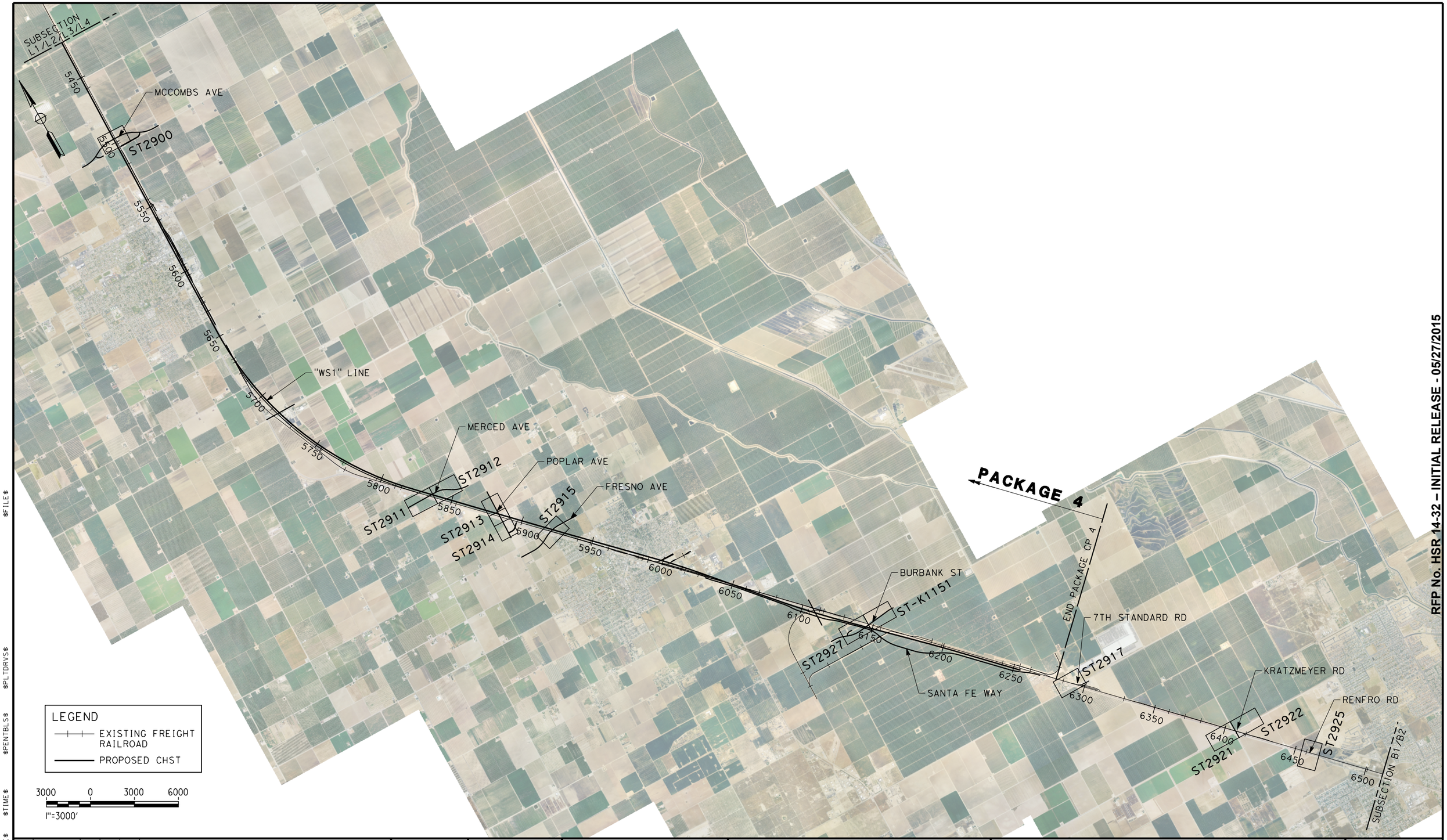
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URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
OVERHEAD PLANNING STUDY
PETERSON RD

CONTRACT NO. HSR 06-0003
DRAWING NO. ST-K1102
SCALE AS SHOWN
SHEET NO. 5 OF 5




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IN CHARGE R. COFFIN
DATE 09/24/14

**PROPOSED PRELIMINARY DESIGN**

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CALIFORNIA HIGH-SPEED TRAIN

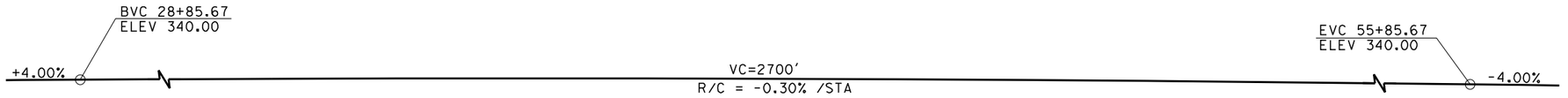
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
OVERHEAD PLANNING STUDY
KEY MAP

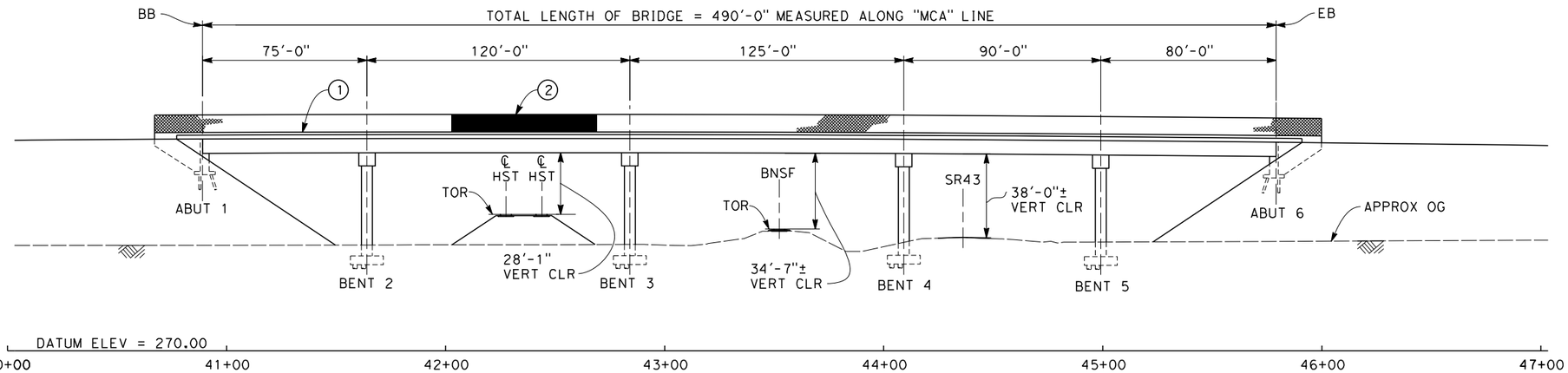
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SHEET NO. 1 OF 14

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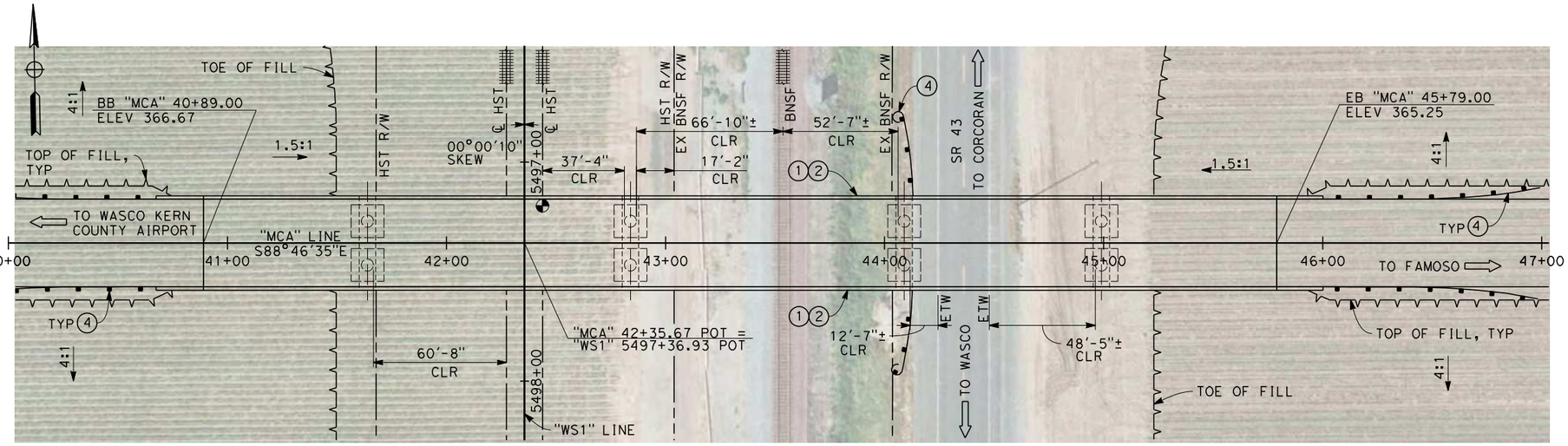
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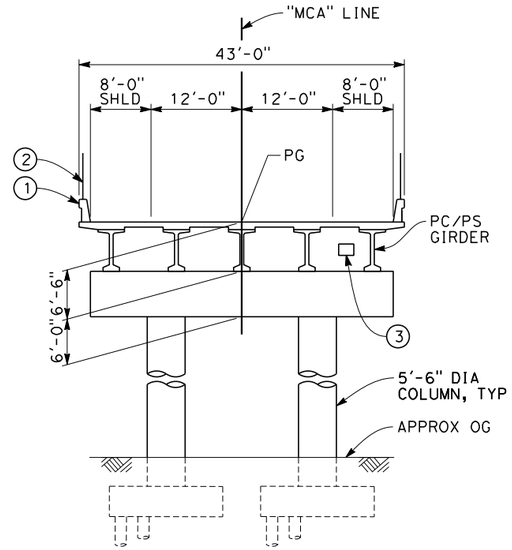

## PROFILE GRADE
NO SCALE




## ELEVATION
SCALE: 1"=30'




## PLAN
SCALE: 1"=30'




## TYPICAL SECTION
SCALE: 1"=10'

NOTES:
1. ALL PILES NOT SHOWN
2. FOR MINIMUM VERTICAL CLEARANCES, HORIZONTAL CURVE DATA, AND DETAILS NOT SHOWN, SEE ROADWAY PLANS.

LEGEND:
1. (1) CONCRETE BARRIER WITH AR FENCE
2. (2) AR FENCE WITH SOLID PLATE OVER HST
3. (3) FUTURE UTILITY ENCASEMENT OPENING
4. (4) MBGR

10 0 10 20 — 1"=10'
30 0 30 60 — 1"=30'

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CHECKED BY E. MORAN
IN CHARGE R. COFFIN
DATE 12/31/13

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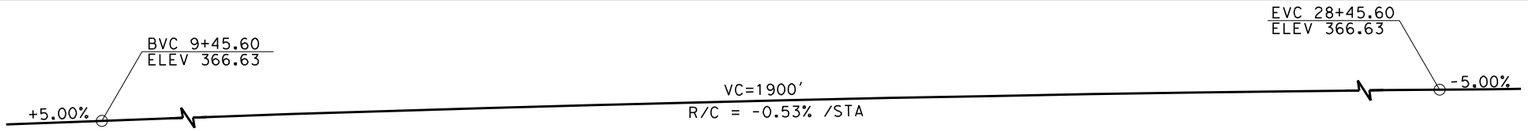
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

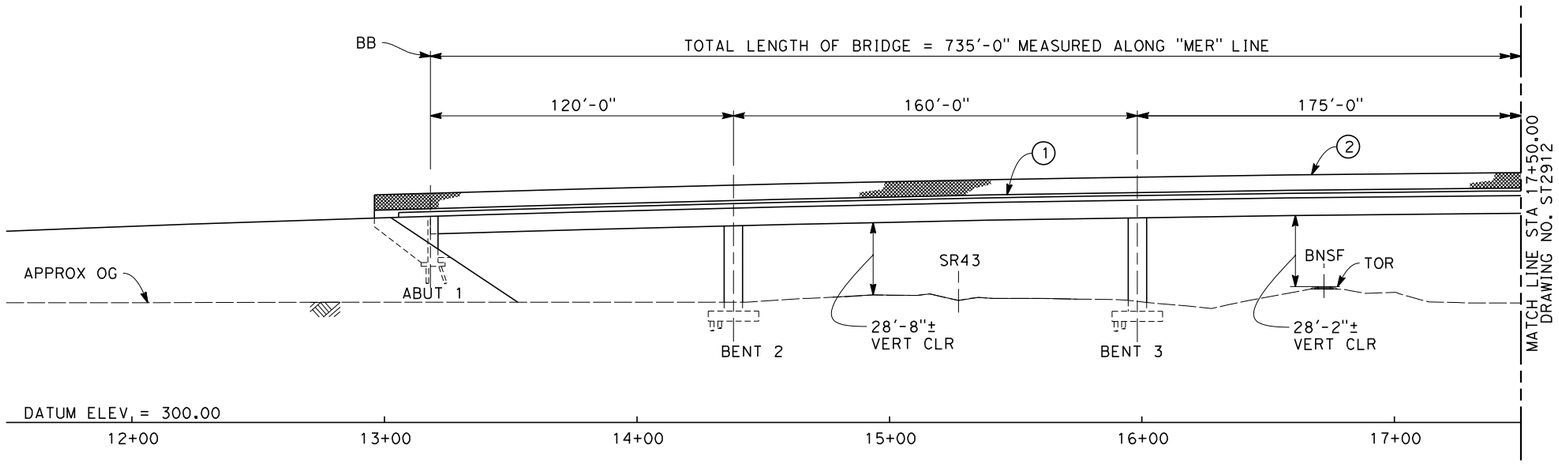
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
OVERHEAD PLANNING STUDY
McCOMBS AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. ST2900
SCALE AS SHOWN
SHEET NO. 2 OF 14

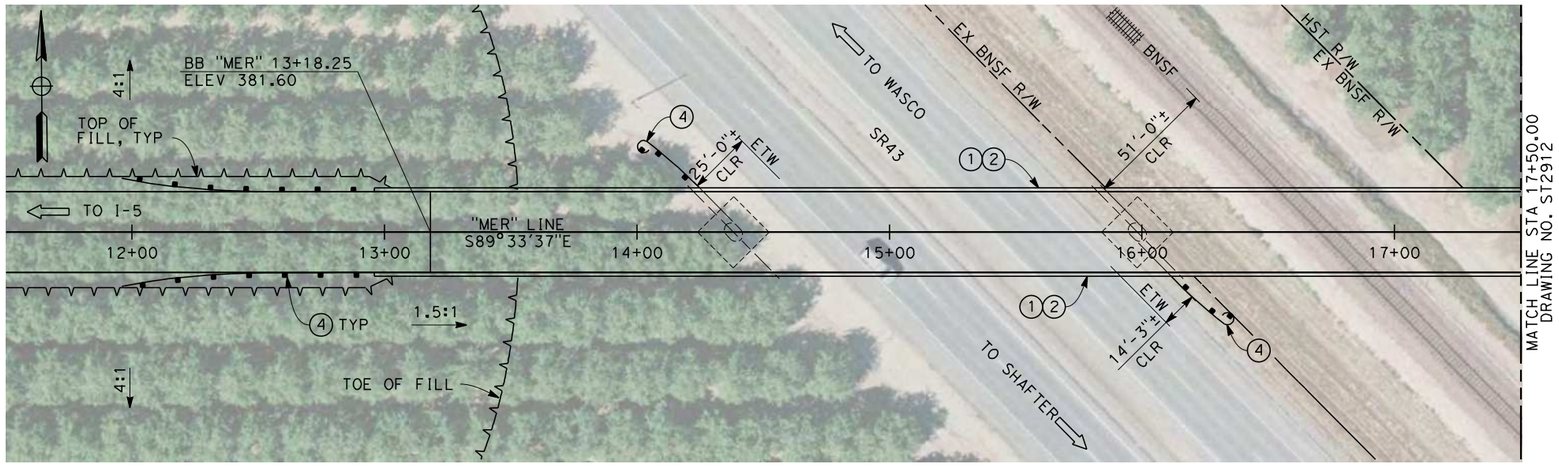
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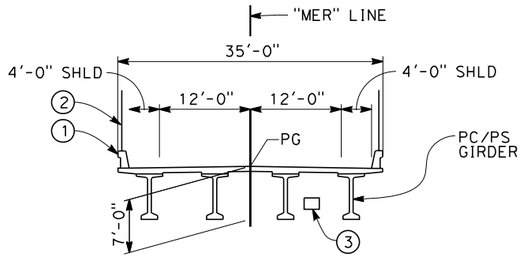

## PROFILE GRADE
NO SCALE



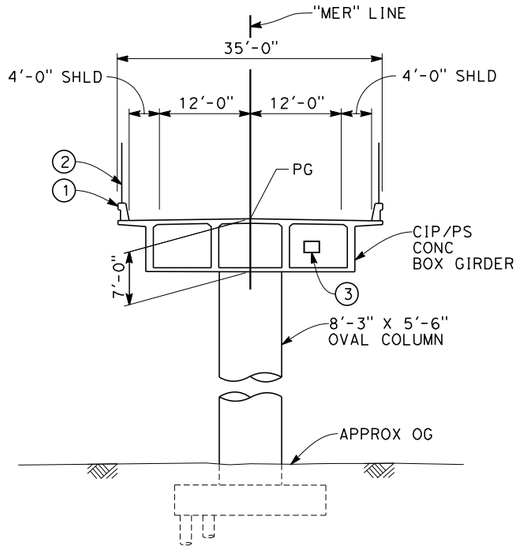

## ELEVATION
SCALE: 1"=30'




## PLAN
SCALE: 1"=30'




SECTION OVER BNSF




## TYPICAL SECTION
SCALE: 1"=10'

NOTES:
1. ALL PILES NOT SHOWN
2. FOR MINIMUM VERTICAL CLEARANCES, HORIZONTAL CURVE DATA, AND DETAILS NOT SHOWN, SEE ROADWAY PLANS.

LEGEND:

(1) CONCRETE BARRIER WITH AR FENCE
(2) AR FENCE WITH SOLID PLATE OVER HST
(3) FUTURE UTILITY ENCASEMENT OPENING
(4) MBGR
(5) RETAINING WALL

10 0 10 20 — 1"=10'
30 0 30 60 — 1"=30'

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|---|---|---|---|---|---|

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DRAWN BY T. PRETZER
CHECKED BY E. MORAN
IN CHARGE R. COFFIN
DATE 12/31/13

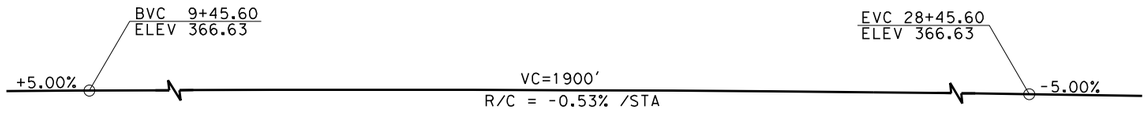
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URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

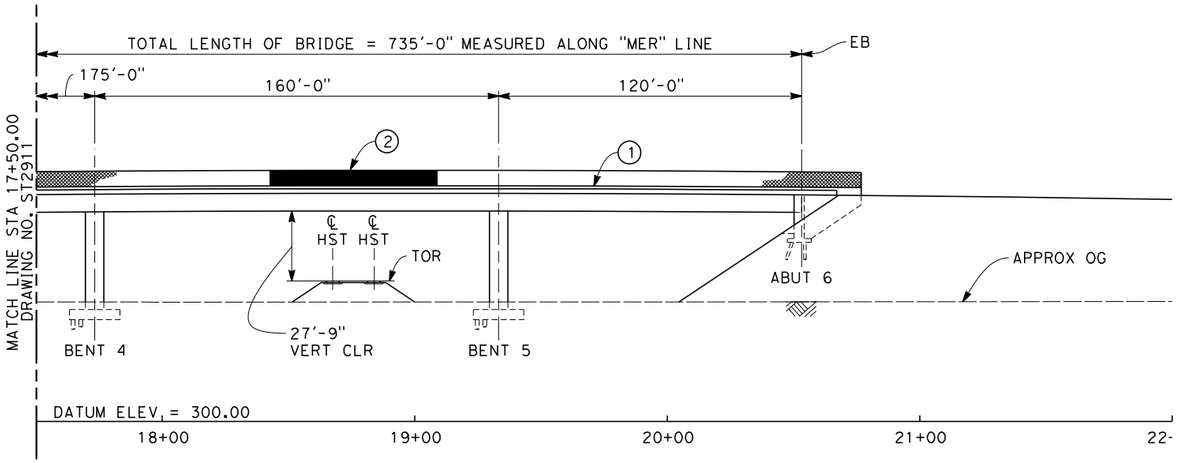
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
OVERHEAD PLANNING STUDY
MERCED AVE

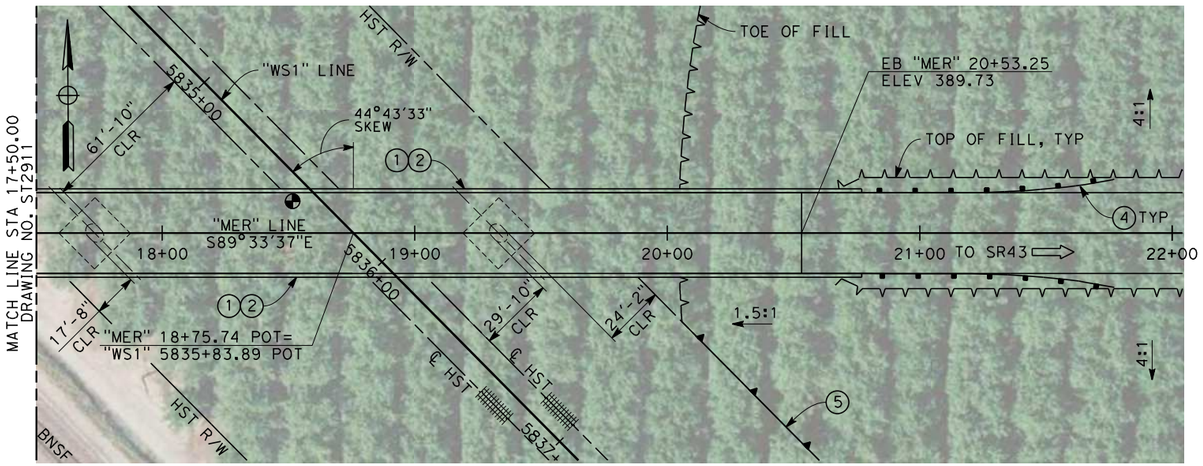
CONTRACT NO. HSR 06-0003
DRAWING NO. ST2911
SCALE AS SHOWN
SHEET NO. 3 OF 14




## PROFILE GRADE
NO SCALE




## ELEVATION
SCALE: 1"=30'




## PLAN
SCALE: 1"=30'

FOR NOTES AND LEGEND,
SEE SHEET ST2911

30 0 30 60
1"=30'

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IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

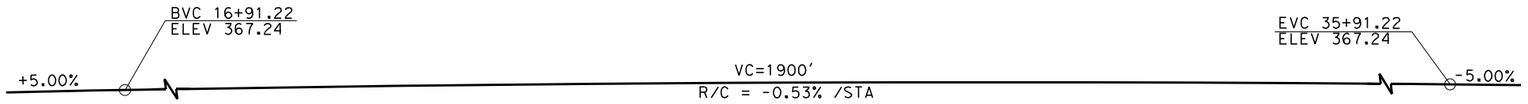
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

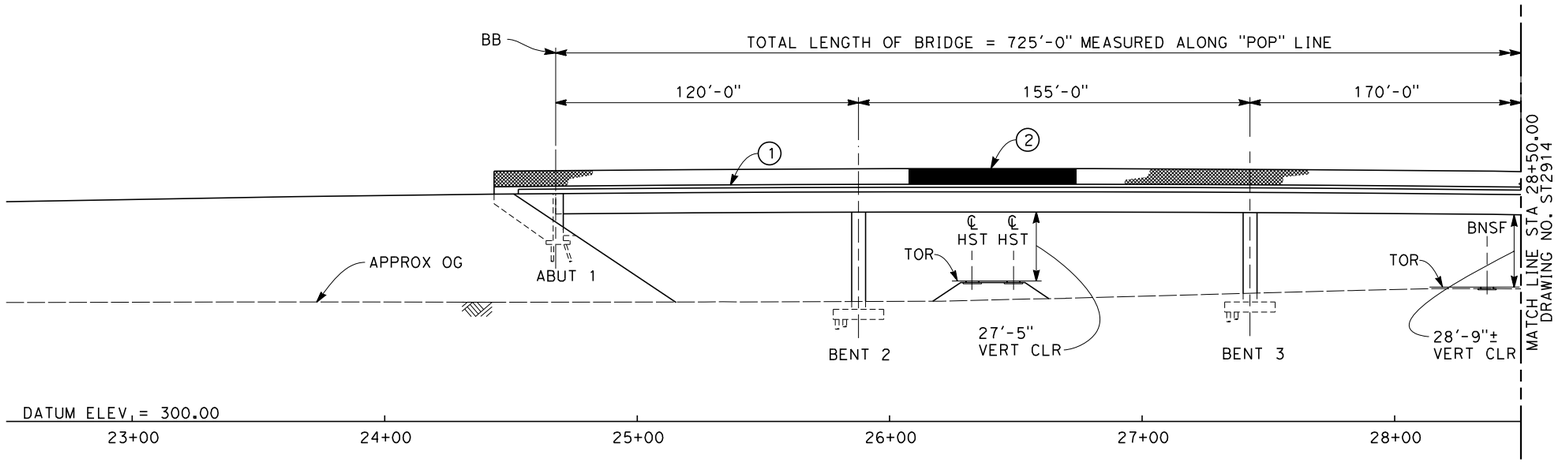
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
OVERHEAD PLANNING STUDY
MERCED AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. ST2912
SCALE AS SHOWN
SHEET NO. 4 OF 14

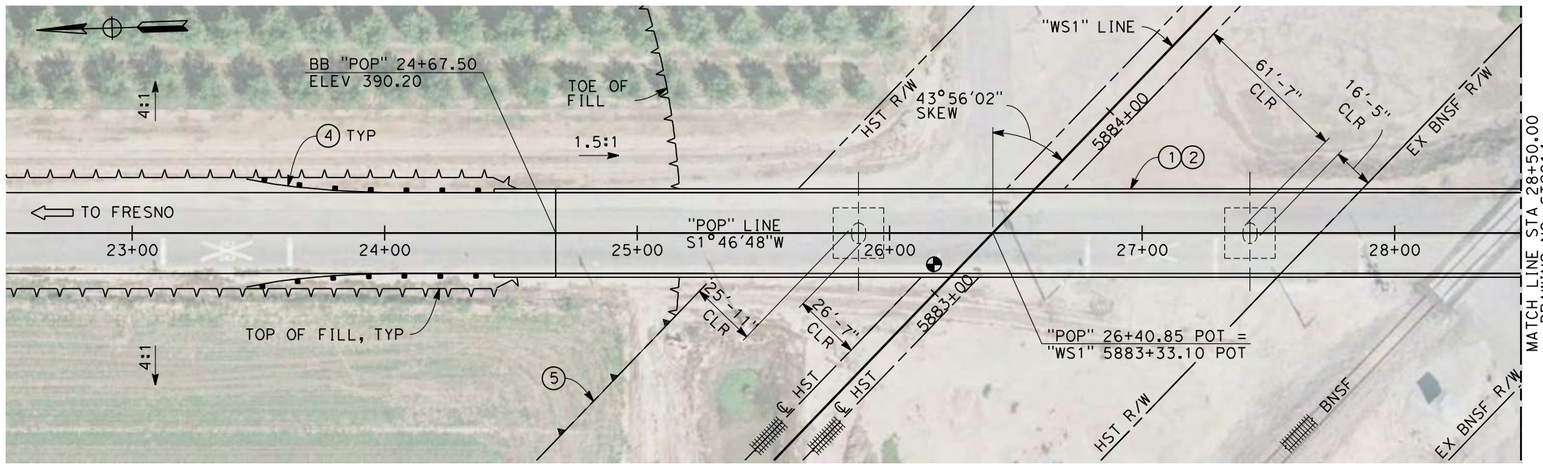
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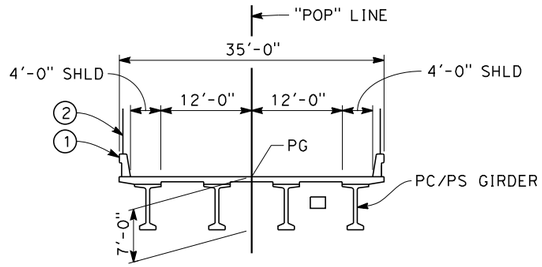

## PROFILE GRADE
NO SCALE



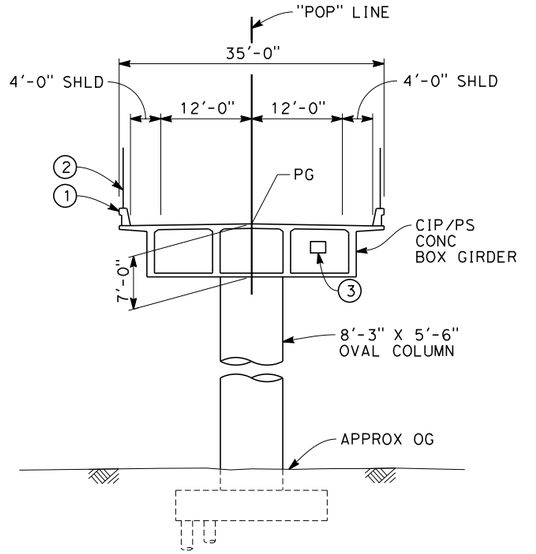

## ELEVATION
SCALE: 1"=30'




## PLAN
SCALE: 1"=30'




SECTION OVER BNSF

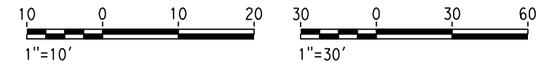



## TYPICAL SECTIONS
SCALE: 1"=10'

NOTES:
1. ALL PILES NOT SHOWN
2. FOR MINIMUM VERTICAL CLEARANCES, HORIZONTAL CURVE DATA, AND DETAILS NOT SHOWN, SEE ROADWAY PLANS.

LEGEND:

(1) CONCRETE BARRIER WITH AR FENCE
(2) AR FENCE WITH SOLID PLATE OVER HST
(3) FUTURE UTILITY ENCASEMENT OPENING
(4) MBGR
(5) RETAINING WALL




| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY L. SMITH
DRAWN BY T. PRETZER
CHECKED BY E. MORAN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

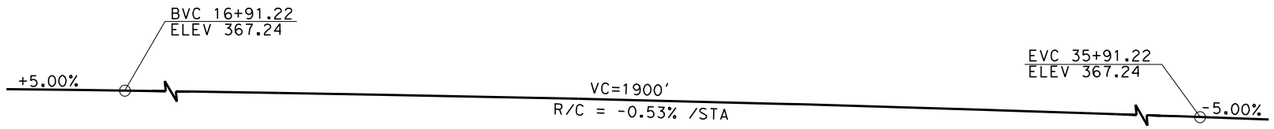
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
OVERHEAD PLANNING STUDY
POPLAR AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. ST2913
SCALE AS SHOWN
SHEET NO. 5 OF 14

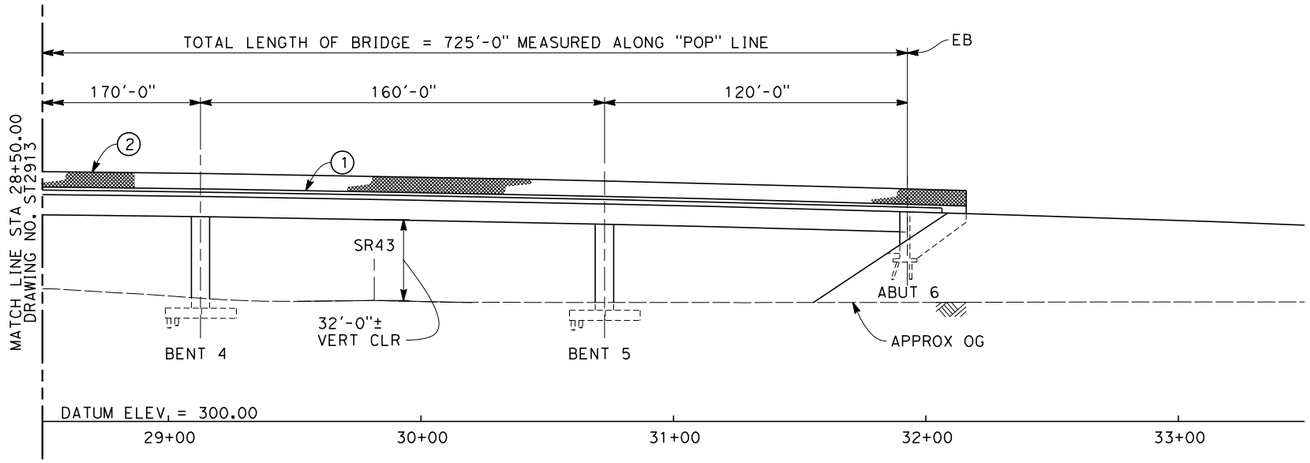
RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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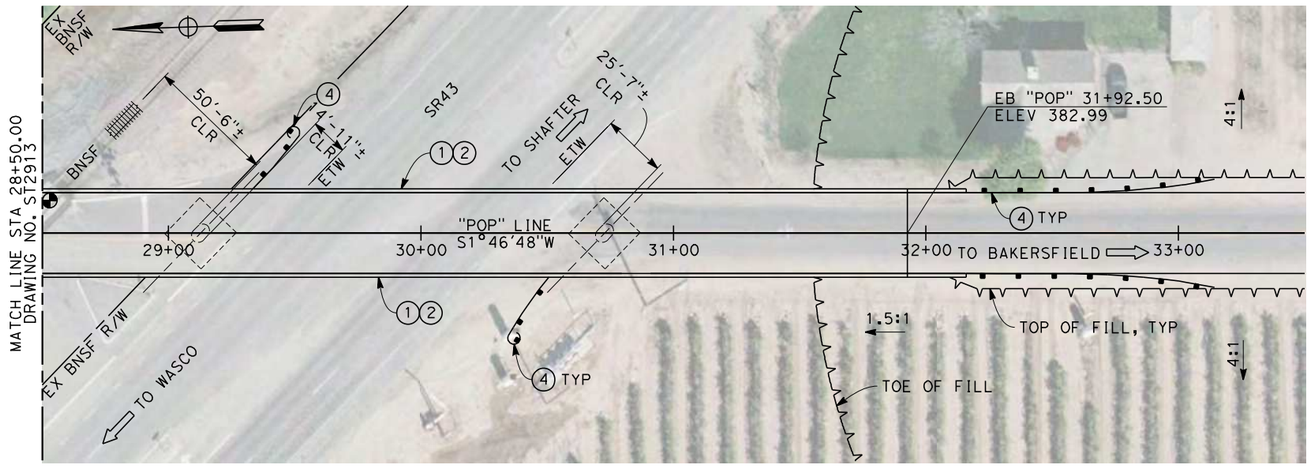



## PROFILE GRADE
NO SCALE

FOR NOTES AND LEGEND,
SEE SHEET ST2913




## ELEVATION
SCALE: 1"=30'




## PLAN
SCALE: 1"=30'

30 0 30 60
1"=30'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

12/20/2013 10:43:49 AM c:\pwworking\hmm\external\and52110\dms86725\FB-ST-2914-WS1.dgn

AND52110

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY L. SMITH
DRAWN BY T. PRETZER
CHECKED BY E. MORAN
IN CHARGE R. COFFIN
DATE 12/31/13

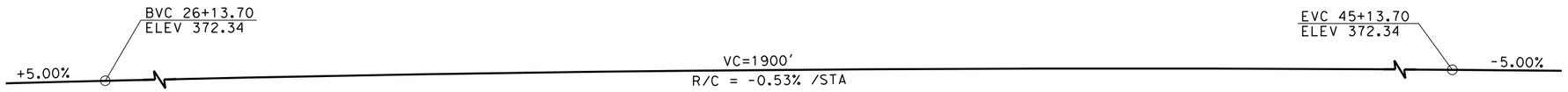
**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

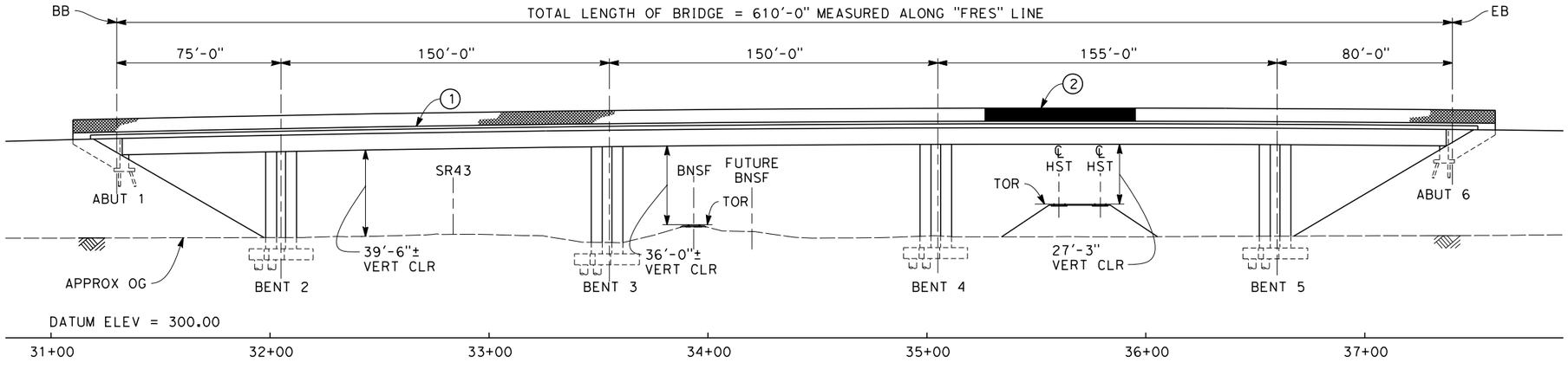
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
OVERHEAD PLANNING STUDY
POPLAR AVE

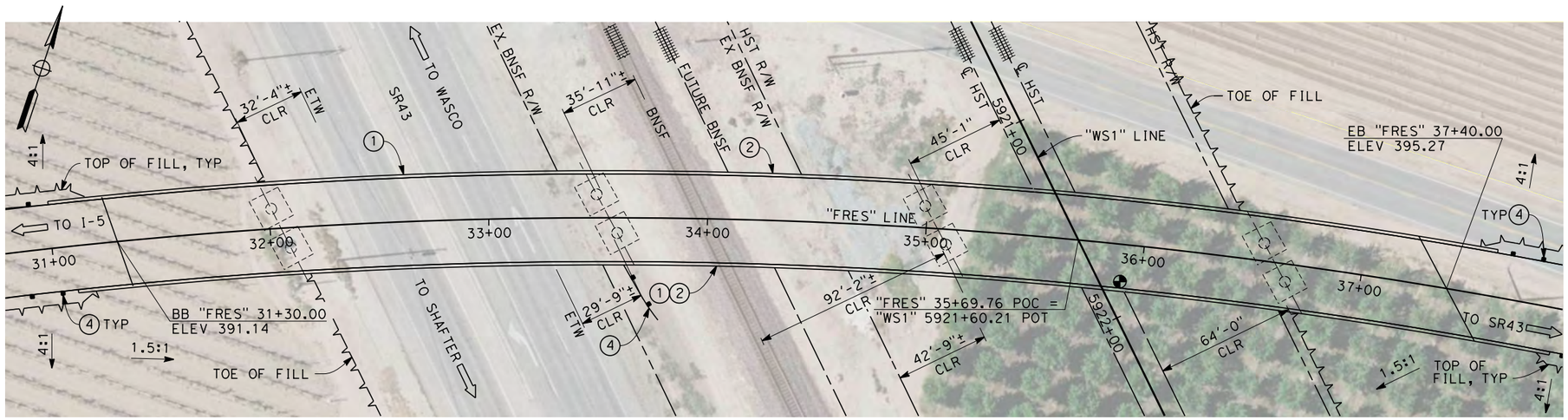
CONTRACT NO. HSR 06-0003
DRAWING NO. ST2914
SCALE AS SHOWN
SHEET NO. 6 OF 14



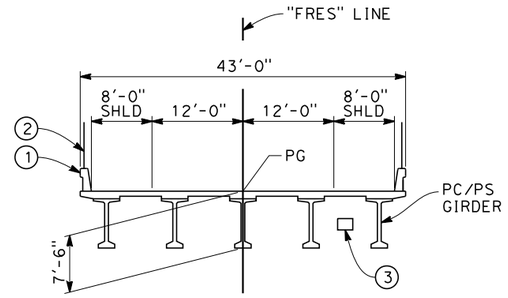

## PROFILE GRADE
NO SCALE



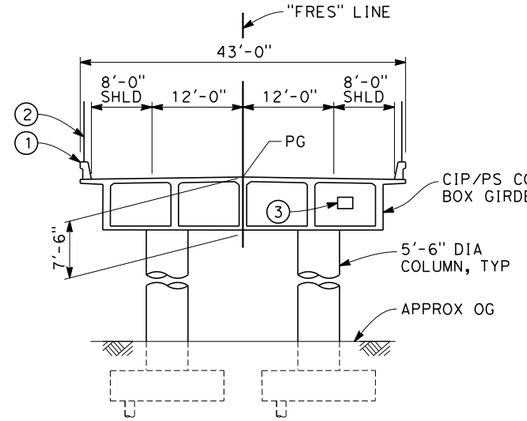

## ELEVATION
SCALE: 1"=30'




## PLAN
SCALE: 1"=30'




SECTION OVER BNSF




## TYPICAL SECTION
SCALE: 1"=10'

NOTES:
1. ALL PILES NOT SHOWN.
2. FOR MINIMUM VERTICAL CLEARANCES, HORIZONTAL CURVE DATA, AND DETAILS NOT SHOWN, SEE ROADWAY PLANS.

LEGEND:
1. CONCRETE BARRIER WITH AR FENCE
2. AR FENCE WITH SOLID PLATE OVER HST
3. FUTURE UTILITY ENCASEMENT OPENING
4. MBGR

10 0 10 20 — 1"=10'

30 0 30 60 — 1"=30'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY L. SMITH
DRAWN BY T. PRETZER
CHECKED BY E. MORAN
IN CHARGE R. COFFIN
DATE 12/31/13

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

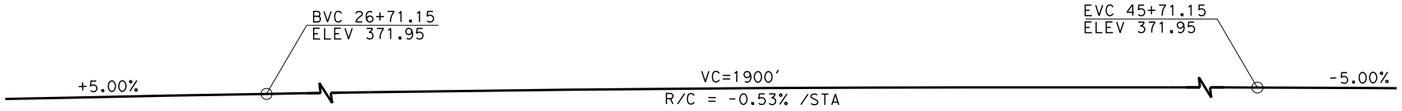
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

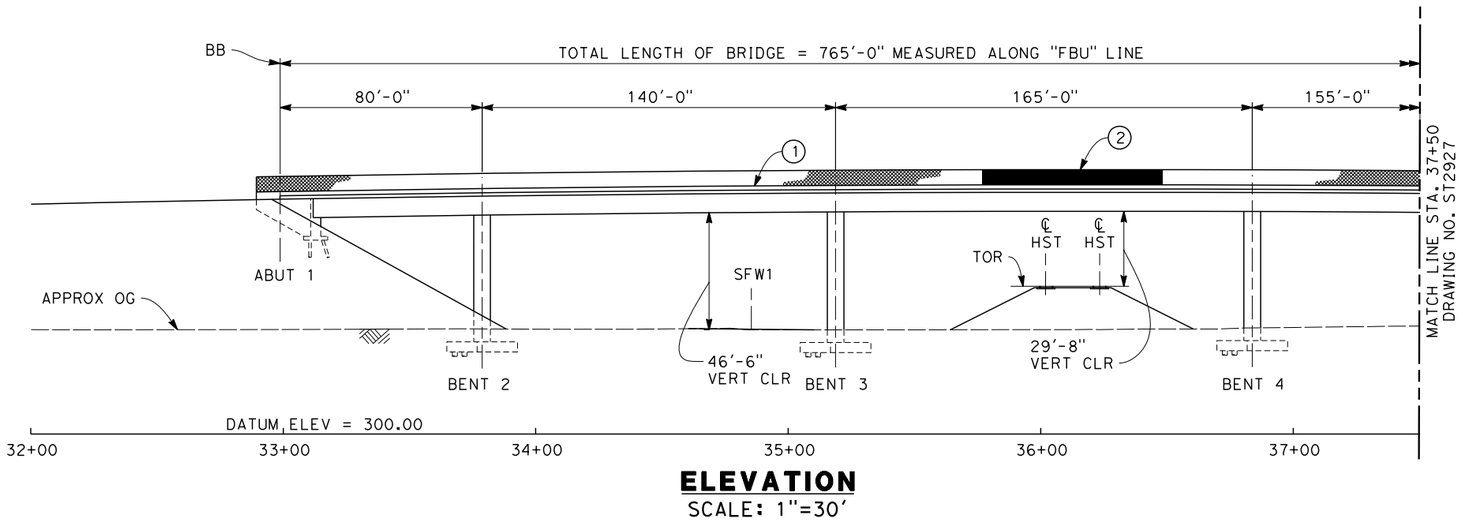
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
OVERHEAD PLANNING STUDY
FRESNO AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. ST2915
SCALE AS SHOWN
SHEET NO. 7 OF 14

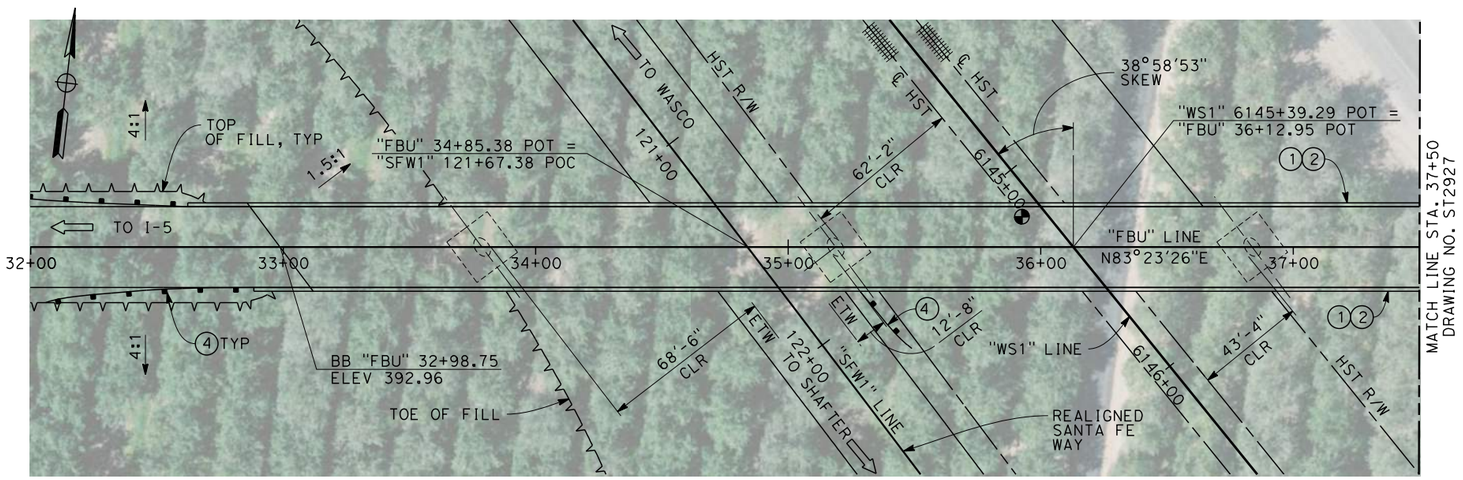
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## PROFILE GRADE
NO SCALE




## ELEVATION
SCALE: 1"=30'




## PLAN
SCALE: 1"=30'

NOTES:
1. ALL PILES NOT SHOWN
2. FOR MINIMUM VERTICAL CLEARANCES, HORIZONTAL CURVE DATA, AND DETAILS NOT SHOWN, SEE ROADWAY PLANS.

LEGEND:
1. CONCRETE BARRIER WITH AR FENCE
2. AR FENCE WITH SOLID PLATE OVER HST
3. FUTURE UTILITY ENCASEMENT OPENING
4. MBGR

30 0 30 60
1"=30'

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY L. SMITH
DRAWN BY T. PRETZER
CHECKED BY E. MORAN
IN CHARGE R. COFFIN
DATE 08/08/14

**PROPOSED PRELIMINARY DESIGN**

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
OVERHEAD PLANNING STUDY
BURBANK ST

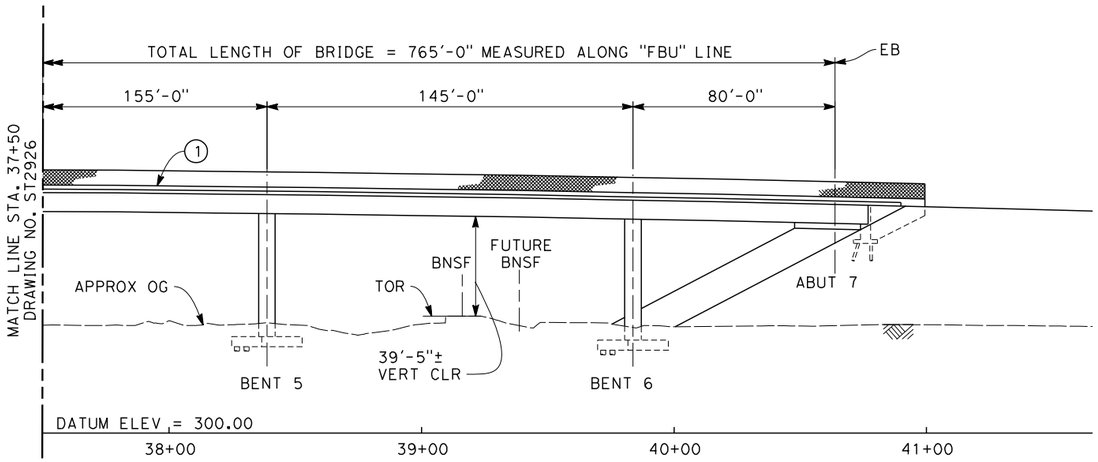
CONTRACT NO. HSR 06-0003
DRAWING NO. ST-K1151
SCALE AS SHOWN
SHEET NO. 8 OF 14

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

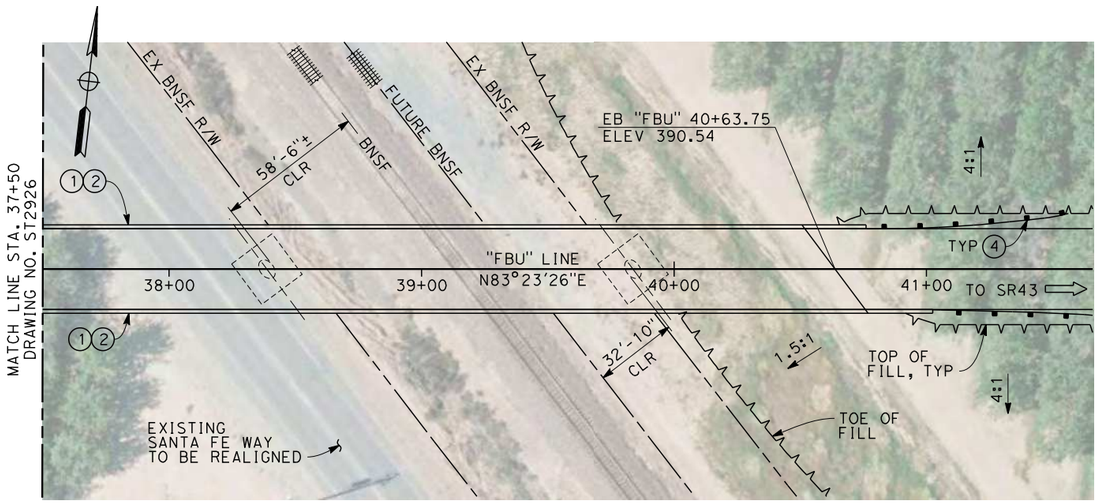
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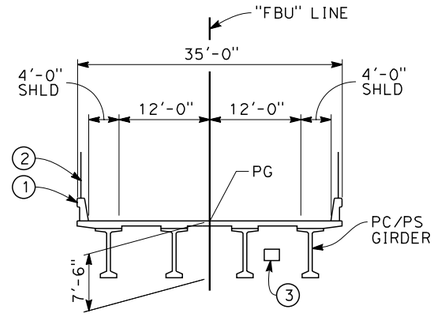

## PROFILE GRADE
NO SCALE



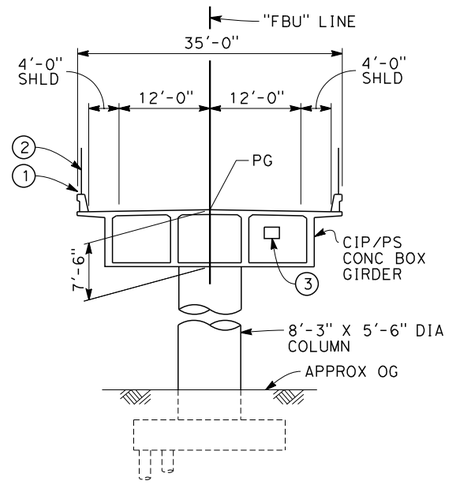

## ELEVATION
SCALE: 1"=30'




## PLAN
SCALE: 1"=30'




SECTION OVER BNSF




## TYPICAL SECTION
SCALE: 1"=10'

FOR NOTES AND LEGEND, SEE SHEET ST2926.

10 0 10 20 — 1"=10'

30 0 30 60 — 1"=30'

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

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BAR59603

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY L. SMITH
DRAWN BY T. PRETZER
CHECKED BY E. MORAN
IN CHARGE R. COFFIN
DATE 12/31/13

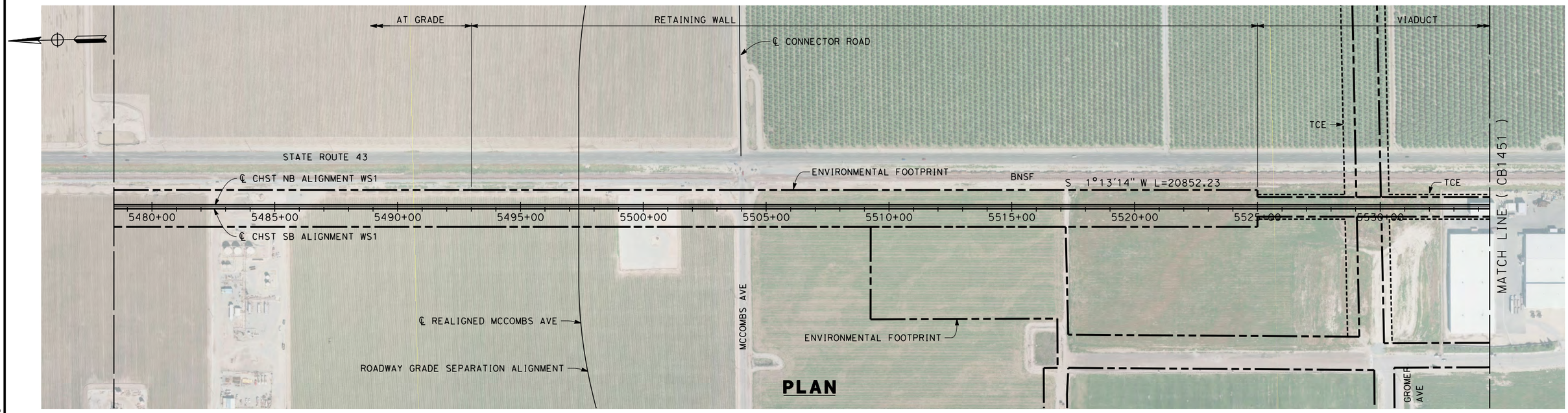
**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

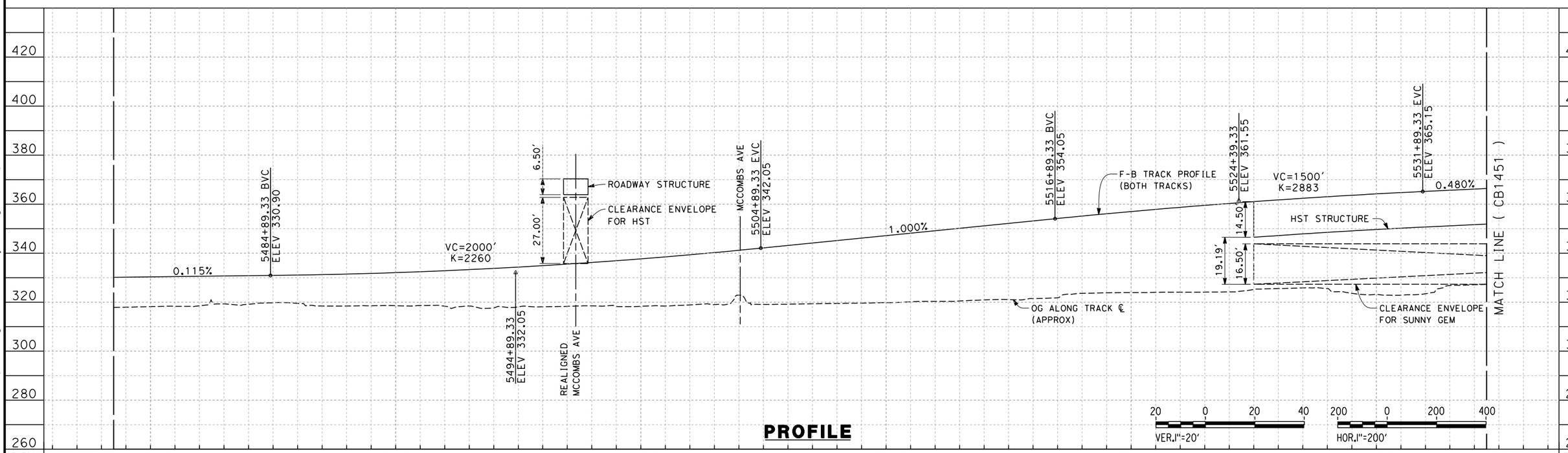
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
OVERHEAD PLANNING STUDY
BURBANK ST

CONTRACT NO. HSR 06-0003
DRAWING NO. ST2927
SCALE AS SHOWN
SHEET NO. 9 OF 14




| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY E. RAYNOR
DRAWN BY P. TONKIN
CHECKED BY K. SEYMOUR
IN CHARGE R. COFFIN
DATE 04/17/15

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

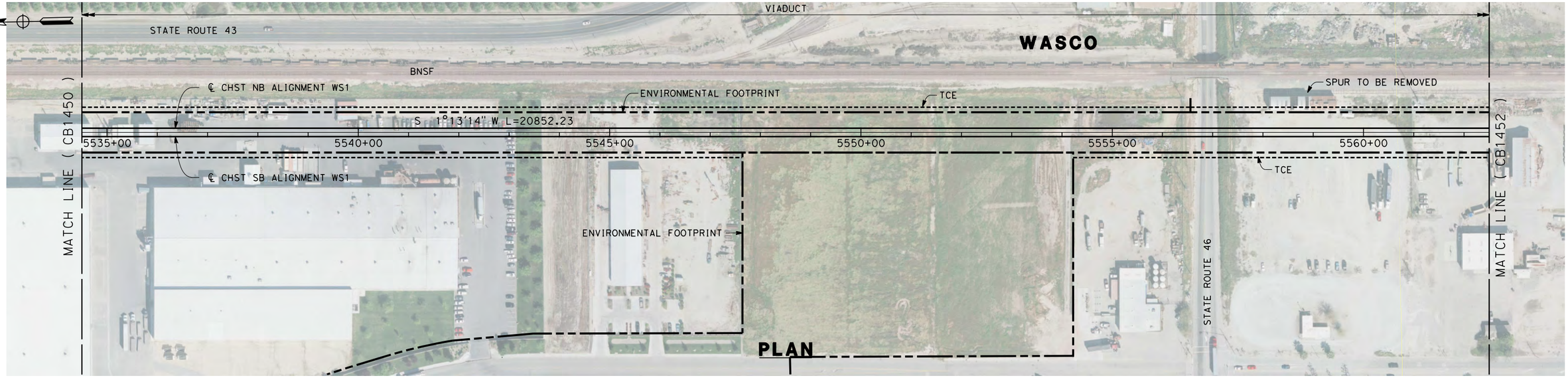
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

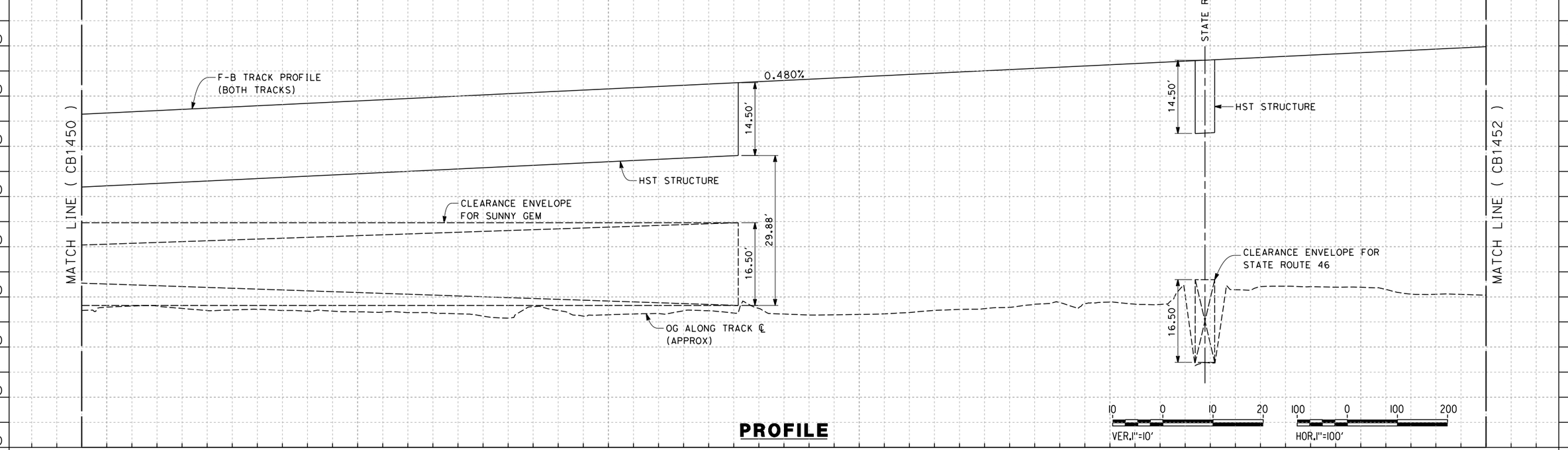
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
## FRESNO TO BAKERSFIELD
WASCO VIADUCT - SUNNYGEM DESIGN REFINEMENT
ALIGNMENT WS1
STA. 5478+50 TO 5534+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. REF-CB1450
SCALE AS SHOWN
SHEET NO. 1 OF 8

jodi.borghesi 4/16/2015 4:29:24 PM c:\pwworking\hmm\external\jodi.borghesi-arup.com\d0276399\REF-FB-CB-1450-WS1.dgn

RFP No.: HSR 14-32 – Addendum No. 3 - 10/28/2015




| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY E. RAYNOR
DRAWN BY P. TONKIN
CHECKED BY K. SEYMOUR
IN CHARGE R. COFFIN
DATE 04/17/15

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD

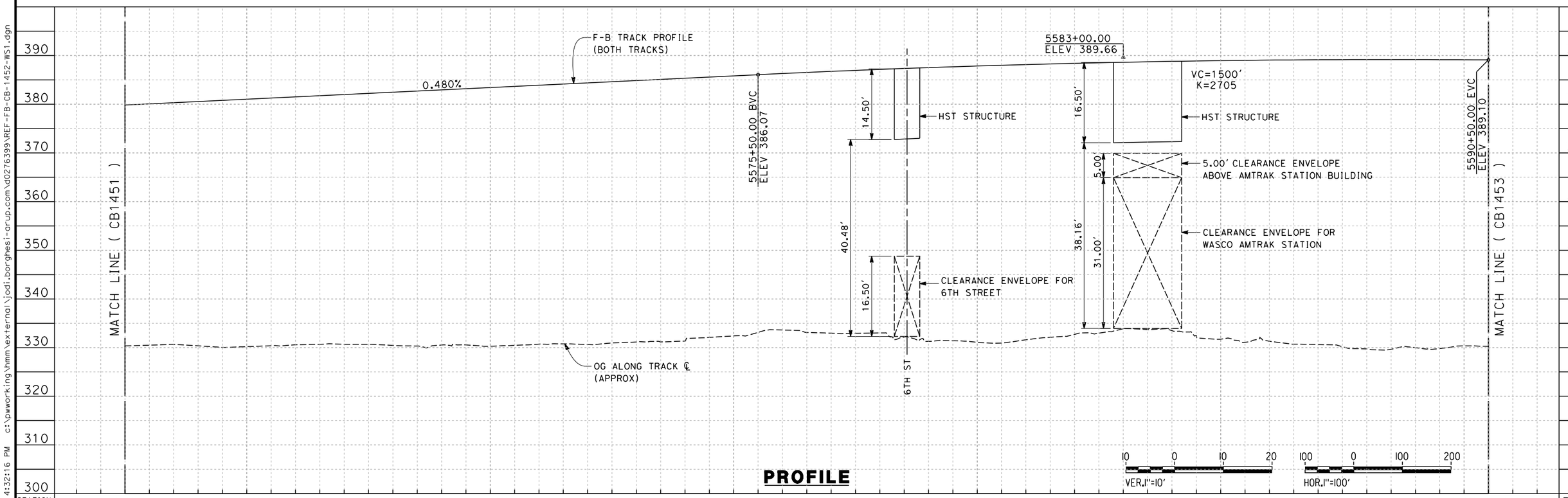
WASCO VIADUCT - SUNNYGEM DESIGN REFINEMENT
ALIGNMENT WS1
STA. 5534+50 TO 5562+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. REF-CB1451
SCALE AS SHOWN
SHEET NO. 2 OF 8

RFP No.: HSR 14-32 – Addendum No. 3 - 10/28/2015

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RFP No.: HSR 14-32 – Addendum No. 3 - 10/28/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY E. RAYNOR
DRAWN BY P. TONKIN
CHECKED BY K. SEYMOUR
IN CHARGE R. COFFIN
DATE 04/17/15

**RECORD SET 15% DESIGN SUBMISSION - NOT FOR CONSTRUCTION**

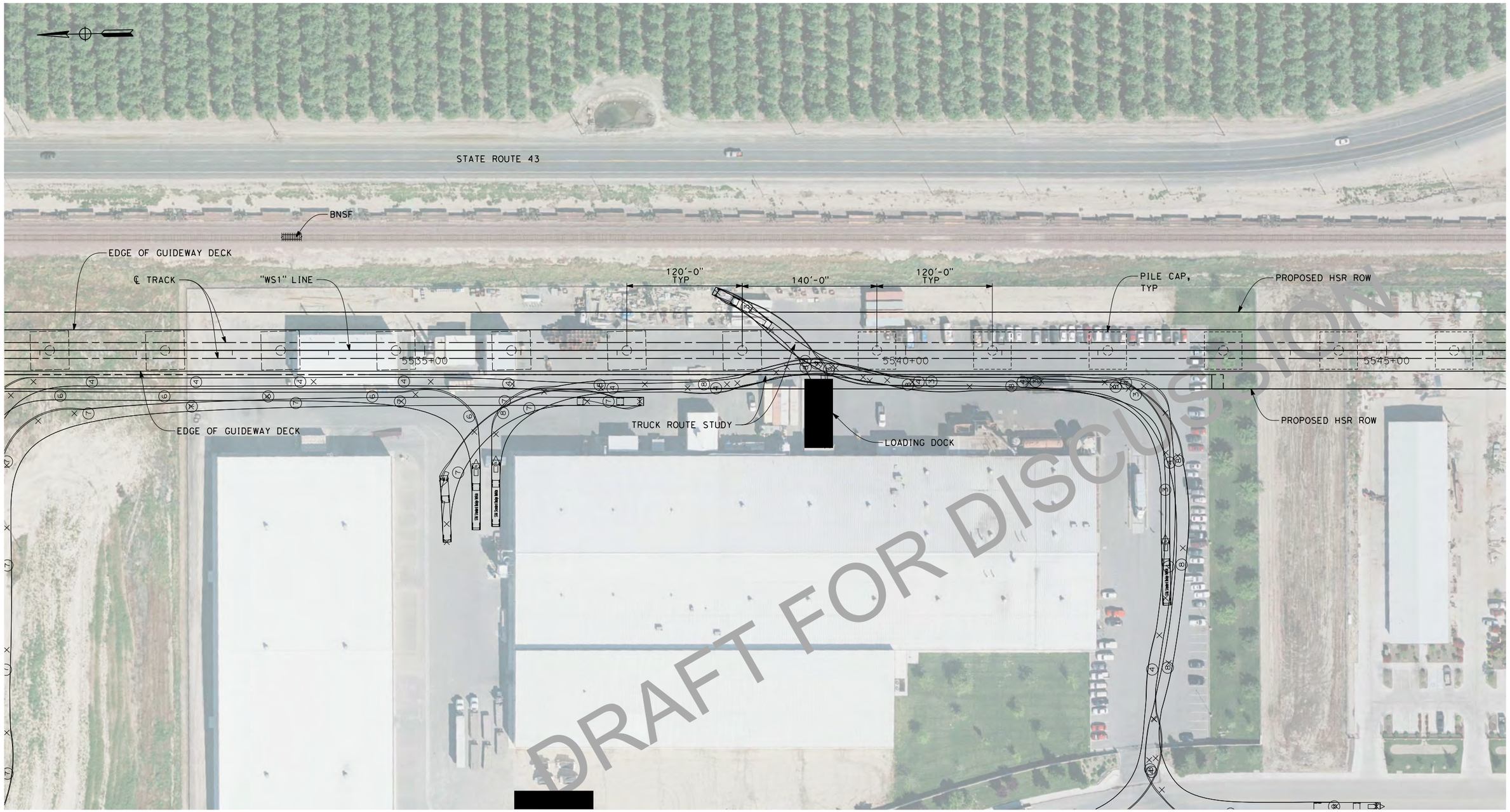
URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD
## WASCO VIADUCT - SUNNYGEM DESIGN REFINEMENT
ALIGNMENT WS1
STA. 5562+50 TO 5590+50
PLAN AND PROFILE

CONTRACT NO. HSR 06-0003
DRAWING NO. REF-CB1452
SCALE AS SHOWN
SHEET NO. 3 OF 8

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4/16/2015 4:32:16 PM
jodi.borghesi




DRAFT FOR DISCUSSION

**Initially issued as Draft**
**Formally issued in Addendum 3**

## PLAN
SCALE: 1"=50'

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |

DESIGNED BY: Y. REN
DRAWN BY: K. MCMILLEN
CHECKED BY: J. SUDARIO
IN CHARGE: S. BURGES
DATE: 11/07/14

NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
WASCO VIADUCT - SUNNYGEM DESIGN REFINEMENT
ALIGNMENT WS1
SUNNY GEM

CONTRACT NO. HSR 06-0003
DRAWING NO. REF-SV-1780
SCALE 1"=50'
SHEET NO. 4 OF 8

kyle.mcmillen 11/7/2014 2:05:38 PM c:\pwworking\hmm\external\kyle.mcmillen-arup.com\d0276836\REF-SV-1780.dgn

RFP No.: HSR 14-32 – Addendum No. 3 - 10/28/2015

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 1 | S 89°26'28" E | 262.66' |
| 2 | N 61°32'33" E | 334.08' |
| 3 | S 88°46'35" E | 780.00' |
| 8 | S 26°17'38" E | 57.79' |
| 9 | S 89°24'21" E | 200.50' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| ① | 2000.00' | 29°00'59" | 517.54' | 1012.86' |
| ② | 2000.00' | 29°40'52" | 529.94' | 1036.06' |
| ⑥ | 300.00' | 63°06'43" | 184.24' | 330.45' |

"MCA" 13+00.00 PI
CONFORM
"MCA" 15+62.66 BC
CONFORM
TCE
R=15'
MCCOMBS AVE
R=15'
TCE
CONFORM
"MCA" 29+09.61 BC
"MCA" 25+75.52 EC
"MCA" 25+00.00 POC=
"AMCC" 0+00.00 PI
"AMCC" 0+57.79 BC
R=30'
R=30'
CONFORM
LIMIT OF DITCH
LIMIT OF DITCH
TOE OF FILL
REMOVE BASE
AND SURFACING
"AMCC" LINE
DRAINAGE DITCH (TYP)
LIMIT OF DITCH
TOE OF FILL
ROADWAY ROW
"MCA" 39+45.67 EC
"MCA" LINE
EP
40'
MBGR
(TYP)
BB
ROADWAY ROW
"MCA" 42+35.67 POT=
"WS1" 5497+36.93 POT
LIMIT OF DITCH
TOE OF FILL
LIMIT OF DITCH
"AMCC" 5+88.74 PI
"AMCC" 3+88.24 EC
"AMCC" 5+00.00
CONFORM
ANNIN AVE
ANNIN
CONNECTOR
32'
REMOVE EXIST
AT-GRADE CROSSING
REMOVE BASE AND SURFACING
"WS1" LINE
HST ROW
5495+00
5500+00
5505+00
MATCH LINE - SEE SHEET CT1901
BNSF
SR 43
RECORD SET DESIGN FOOTPRINT
DESIGN REFINEMENT FOOTPRINT
100 0 100 200
SCALE: 1"=100'

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY T. CLIFFORD
DRAWN BY V. ORTEGA
CHECKED BY B. RAWSON
IN CHARGE S. BURGES
DATE 04/17/15

NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
WASCO VIADUCT - SUNNYGEM DESIGN REFINEMENT
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
MCCOMBS AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. REF-CV-T1132
SCALE AS SHOWN
SHEET NO. 5 OF 8

RFP No.: HSR 14-32 – Addendum No. 3 - 10/28/2015

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RECORD SET DESIGN FOOTPRINT

DESIGN REFINEMENT FOOTPRINT

## LINE DATA

| NO. | BEARING | DISTANCE |
|---|---|---|
| 3 | S 88°46'35" E | 780.00' |
| 4 | S 61°49'38" E | 430.30' |
| 5 | S 89°26'28" E | 439.42' |
| 6 | N 28°10'22" E | 78.00' |
| 7 | S 89°26'28" E | 1274.22' |

## CURVE DATA

| NO. | R | Δ | T | L |
|---|---|---|---|---|
| ③ | 2000.00' | 26°56'57" | 479.22' | 940.71' |
| ④ | 2000.00' | 27°36'50" | 491.50' | 963.91' |
| ⑤ | 300.00' | 62°23'10" | 181.64' | 326.65' |

MATCH LINE - SEE SHEET CT1900

"MCAC" 10+00.00 PI

"MCA" 47+25.67 BC

DRAINAGE DITCH (TYP)

LIMIT OF DITCH

LIMIT OF DITCH TOE OF FILL

"MCA" LINE

ROADWAY ROW

EP

EB

MBGR

40'

"MCA" 56+66.38 EC

"MCA" 60+96.67 BC = "MCAC" 26+78.81 PI

LIMIT OF DITCH

ROADWAY ROW

LIMIT OF DITCH TOE OF FILL

"MCAC" 20+00.00 CONFORM

"MCAC" 22+74.22 BC

R=35'

TOE OF FILL

"MCAC" LINE

"MCAC" 26+00.88 EC

"MCA" 70+60.58 EC

"MCA" 73+50.00 CONFORM

"MCA" 75+00.00 PI

MCCOMBS CONNECTOR

MCCOMBS AVE

EP

32'

ROADWAY ROW

TOE OF FILL

REMOVE BASE AND SURFACING

BNSF

SR 43

100 0 100 200

SCALE: 1"=100'

RFP No.: HSR 14-32 – Addendum No. 3 - 10/28/2015

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY T. CLIFFORD
DRAWN BY V. ORTEGA
CHECKED BY B. RAWSON
IN CHARGE S. BURGES
DATE 04/17/15

NOT FOR CONSTRUCTION

URS | HMM | ARUP
CALIFORNIA HIGH-SPEED TRAIN

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

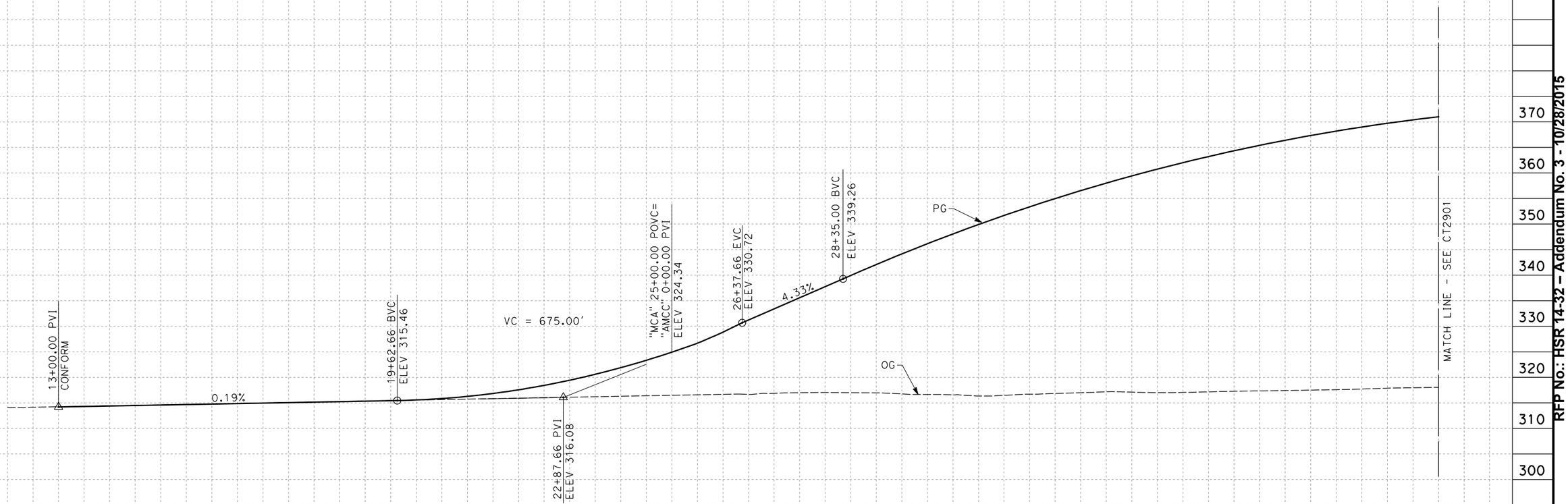
# CALIFORNIA HIGH-SPEED TRAIN PROJECT
# FRESNO TO BAKERSFIELD

WASCO VIADUCT - SUNNYGEM DESIGN REFINEMENT
ALIGNMENT WS1
GRADE SEPARATION LAYOUT
MCCOMBS AVE

CONTRACT NO. HSR 06-0003
DRAWING NO. REF-CV-1133
SCALE AS SHOWN
SHEET NO. 6 OF 8

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NOTES:
1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER BNSF IS 24.0' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE UNDER STRUCTURE IS 16.5' FROM ROAD SURFACE




**PROFILE**
"MCA" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| STATION | 2 | 3 | 4 | 15 | 6 | 7 | 8 | 9 | 20 | 1 | 2 | 3 | 4 | 25 | 6 | 7 | 8 | 9 | 30 | 1 | 2 | 3 | 4 | 35 | 6 | 7 | 8 | 9 | 40 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CY Exc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CY Emb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

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URS | HMM | ARUP

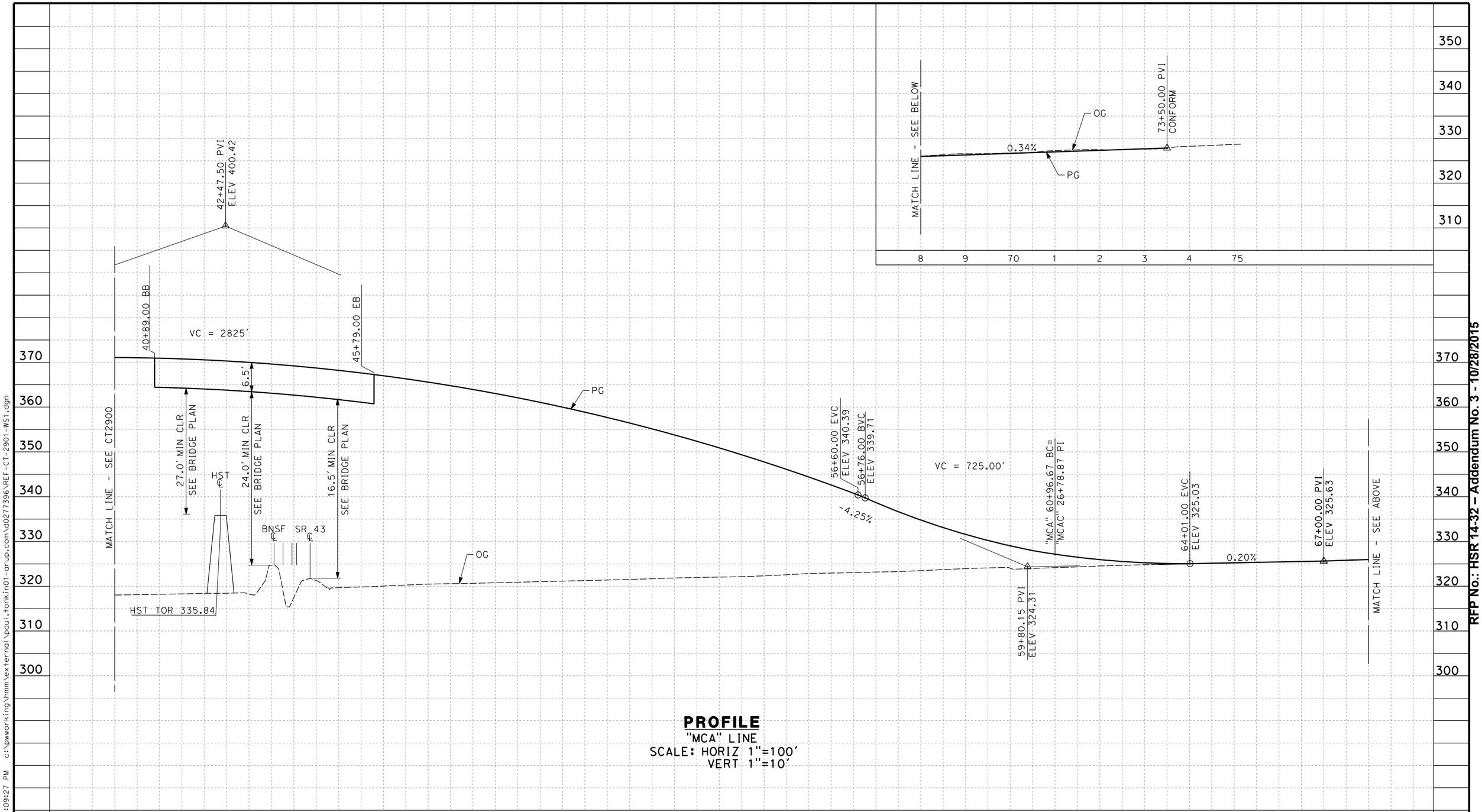
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
WASCO VIADUCT - SUNNYGEM DESIGN REFINEMENT
ALIGNMENT WS1
GRADE SEPARATION PROFILE
MCCOMBS AVE

CONTRACT NO. HSR 06-003
DRAWING NO. REF-CT2900
SCALE AS SHOWN
SHEET NO. 7 OF 8

RFP No.: HSR 14-32 – Addendum No. 3 - 10/28/2015

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**PROFILE**
"MCA" LINE
SCALE: HORIZ 1"=100'
VERT 1"=10'

| REV | DATE | BY | CHK | APP | DESCRIPTION |
|---|---|---|---|---|---|

DESIGNED BY T. CLIFFORD
DRAWN BY V. ORTEGA
CHECKED BY B. RAWSON
IN CHARGE S. BURGES
DATE 04/17/15

**NOT FOR CONSTRUCTION**

URS | HMM | ARUP

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**
**FRESNO TO BAKERSFIELD**
WASCO VIADUCT - SUNNYGEM DESIGN REFINEMENT
ALIGNMENT WS1
GRADE SEPARATION PROFILE
MCCOMBS AVE

CONTRACT NO. HSR 06-003
DRAWING NO. REF-CT2901
SCALE AS SHOWN
SHEET NO. 8 OF 8

RFP No.: HSR 14-32 – Addendum No. 3 - 10/28/2015

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